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Volume 50

Number 1

A Landmark Decision . . .

Supreme Court of the United States—

North Dakota State Board of Pharmacy Case

The Poison Pen . . .

Local and Systemic Antidotes

by Gary M. Oderda, Pharm.D. and

Mary S Furth, M.D., M.P.H.

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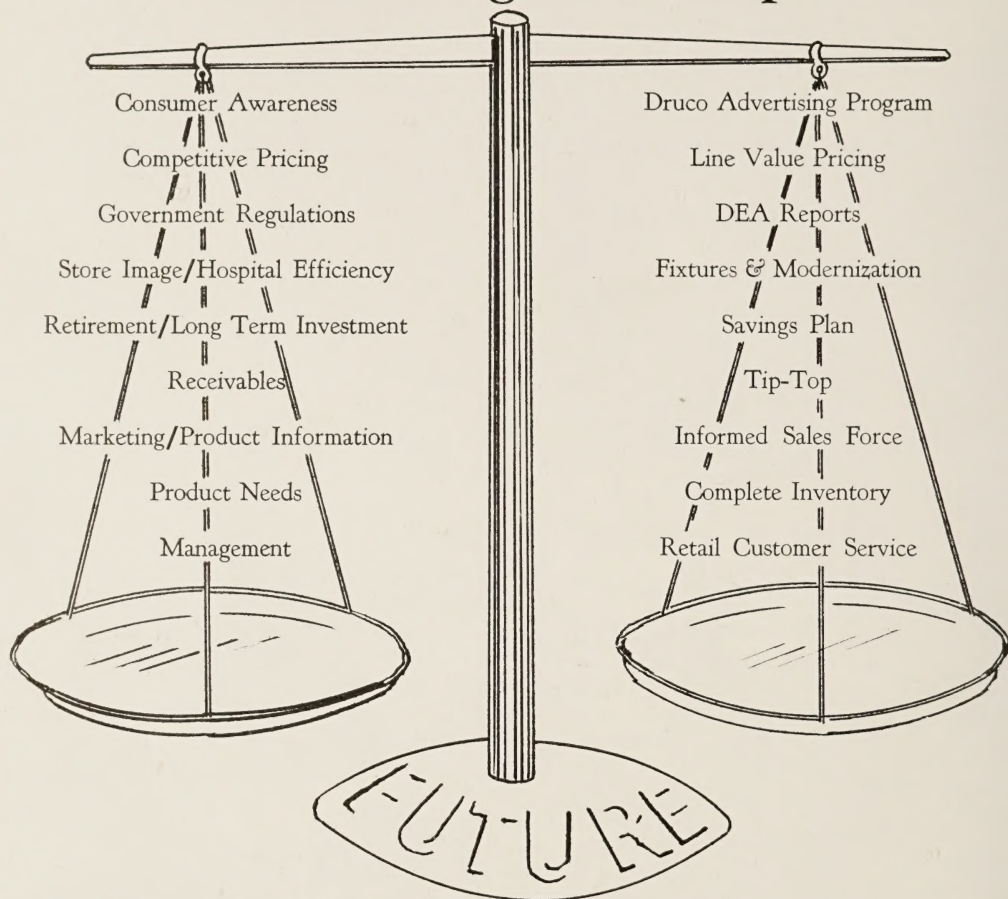
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METRIFICATION — AN OPPORTUNITY FOR PHARMACY

Legislation is expected to be enacted this year which will put into effect a ten year plan for converting the nation's official system of measurement to the Metric system. Ninety per cent of the world's population now resides in countries which use the Metric system and the United States is the last major nation to make the change. Some states have already made preparations such as erecting dual marked highway signs with distances appearing in kilometers as well as in miles and Maryland will be one of several states that will begin teaching the Metric system in its schools in 1976.

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Anne Arundel County Pharmaceutical Association

New officers of the Anne Arundel County Pharmaceutical Association were installed on January 23 at the Friendship Inn. The 1974 slate is as follows:

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PHARMACY CALENDAR

April 18 (Thursday) — Maryland Pharmaceutical Association House of Delegates and Regional Meeting, The Baltimore Hilton Inn, Reisterstown Road at the Beltway.

April 18 (Thursday) — Maryland Society of Hospital Pharmacists meeting at St. Joseph's Hospital, Towson.

April 24 (Wednesday) — Kappa Chapter, Alpha Zeta Omega Pharmacy Fraternity meeting.

May 9 (Thursday) — Joint Program—Baltimore County Unit, A.C.S. - MPhA - BMPA - School of Pharmacy. "Pharmacist's Role in Cancer," special program for women, continuing education credits. New Hilton Inn, Pikesville, 7:00 p.m.

May 29 (Wednesday) — Graduation Banquet, University of Maryland School of Pharmacy, Eudowood Gardens.

June 28-30 — Ninth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Williamsburg, Virginia.

June 23-27 — 92nd Annual Convention, Maryland Pharmaceutical Association, Downingtown Inn, Downingtown, Pa.

July 14-18 — National Convention, Alpha Zeta Omega Pharmaceutical Fraternity, International Hotel, Freeport, Bahamas.

August 3-9 — American Pharmaceutical Association Annual Meeting, Chicago.

September 29-October 4 — National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas.

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A Landmark Decision . . .

In 1928 the U.S. Supreme Court in the *Liggett v. Baldridge* case struck down the 1927 Pennsylvania statute requiring pharmacist ownership of pharmacies. The law was almost an exact copy of one passed in New York State in 1923 and upheld by the New York courts. The philosophy of the Supreme Court began to return in 1931 to those earlier days when it began to reject the narrow view of a state's jurisdiction in exerting its police power.

Finally, in the decision in the North Dakota case published below, the U.S. Supreme Court returned to the philosophy of Justices Holmes and Brandeis in their dissenting opinion in the *Liggett* case, which was a reflection of earlier views of the Court. The Articles of Incorporation of both the MPhA in 1889 and the American Pharmaceutical Association in 1888, include as objects of their groups the restriction of the dispensing and sale of medicines to pharmacists. Of interest is that one of the incorporators of APhA was Arthur Nattans who became owner of Read Drug & Chemical Co. (The Read's Drug Store chain of Maryland).

APhA and NARD supported the North Dakota State Board of Pharmacy as *amicus curiae*. MPhA joined in financial support. All facets of organized pharmacy are carefully studying the implications of the case and what possible action is advisable.

Nathan I. Gruz, R.Ph.
Executive Director

Supreme Court of the United States

No. 72-1176

North Dakota State Board of Pharmacy, Petitioner, v. Snyder's Drug Stores, Inc.	}	On Writ of Certiorari to the Supreme Court of North Dakota.
--	---	---

(December 5, 1973)

Mr. Justice Douglas delivered the opinion of the Court.

North Dakota passed a statute¹ that requires that the applicant for a permit to operate a pharmacy be "a registered pharmacist in good standing" or "a corporation or association, the majority stock in which is owned by registered pharmacists in good standing, actively and regularly employed in and responsible for the management, supervision, and operations of such pharmacy."

Petitioner denied a permit to Snyder's Drug Stores, Inc., because it did not comply with the stock-ownership requirements of statute, it appearing that all the common stock of Snyder's was owned by Red Owl Stores and it not being shown if any Red Owl shareholders were pharmacists registered and in good standing in North Dakota. On appeal to the state district court summary judgment was granted Snyder's. On appeal to the Supreme Court of North Dakota, that court held² that the North Dakota statute was unconstitutional by reason of our decision in

1928 in *Liggett Co. v. Baldridge*, 278 U. S. 105. That case involved a Pennsylvania statute that required that 100% of the stock of the corporation be owned by pharmacists. The North Dakota statute, however, requires only that a majority of the stock be owned by pharmacists. But the North Dakota Supreme Court held that the difference did not take this case out from under the *Liggett* case because under both statutes control of the corporation having a pharmacist's license had to be in the hands of pharmacists responsible for the management and operation of the pharmacy. That court therefore remanded the case, so that the Board could conduct "an administrative hearing on the application, *sans the con-*

¹ N. Dak. Century Code § 43-15-35(5) provides:

"Requirements for permit to operate pharmacy.—The board shall issue a permit to operate a pharmacy, or a renewal permit, upon satisfactory proof that:

"5. The applicant for such permit is qualified to conduct the pharmacy, and is a registered pharmacist in good standing or is a partnership, each active member of which is a registered pharmacist in good standing, or a corporation or association, the majority stock in which is owned by registered pharmacists in good standing, actively and regularly employed in and responsible for the management, supervision, and operation of such pharmacy; and
"The provision of subsection 5 of this section shall not apply to the holder of a permit on July 1, 1963, if otherwise qualified to conduct the pharmacy, provided that any such permit holder who shall discontinue operations under such permit or fail to renew such permit upon expiration shall not thereafter be exempt from the provisions of such subsection as to such discontinued or lapsed permit. The provisions of subsection 5 of this section shall not apply to hospital pharmacies furnishing service only to patients in such Hospital."

² —N. D.—, 202 N. W. 2d 140.

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stitutional issue, pursuant to our Administration Agencies Practice Act,"—N. W. 2d—(italics added).

The case is here on a petition for certiorari which we granted,—U. S.—.

I

We are met at the outset with a suggestion that the judgment of the Supreme Court of North Dakota is not "final" within the meaning of 28 U. S. C. § 1257 which restricts our jurisdiction to review state court decisions.³

The finality requirement of 28 U. S. C. § 1257 which limits our review of state court judgments serves several ends: (1) it avoids piecemeal review by federal courts of state court decisions; (2) it avoids giving advisory opinions in cases where there may be no real "case" or "controversy" in the sense of Art. III; (3) it limits federal review of state court determinations of federal constitutional issues to leave at a minimum federal intrusion in state affairs.

Mr. Justice Frankfurter writing for the Court in *Radio Station WOW v. Johnson*, 326 U. S. 120, 124, summarized the requirement by Congress that in appeals from federal district courts as well as in review of state court decisions the judgments be "final": "This requirement has the support of considerations generally applicable to good judicial administration. It avoids the mischief of economic waste and of delayed justice. Only in very few situations, where intermediate rulings may carry serious public consequences, has there been a departure from this requirement of finality for federal appellate jurisdiction. The prerequisite to review derives added force when the jurisdiction of this Court is invoked to upset the decision of a State court. Here we are in the realm of potential conflict between the courts of two different governments. And so, ever since 1789, Congress has granted this Court the power to intervene in State litigation only after 'the highest court of a State in which a decision in the suit could be had' has rendered a 'final judgment or decree.' § 237 of the Judicial Code, 28 U. S. C. § 344(a). This requirement is not one of those technicalities to be easily scorned. It is an important factor in the smooth working of our federal system."

But, as he pointed out, this concept of "finality" has a "penumbral area." *Ibid.* Speaking for the Court in that case, he held that Nebraska's ruling on the legality of a radio license issued by the federal commission could be reviewed even though the state court had not yet determined the final accounting. He stated: "Of course where the remaining litigation may raise other Federal questions that may later come here . . . to allow review of an intermediate adjudication would offend the decisive objection to fragmentary reviews." *Id.* 127.

Mills v. Alabama, 384 U. S. 214, involved the constitutionality of a state statute making it a crime for an editor on election day to urge people to vote a certain way

³ "Final judgments or decrees rendered by the highest court of the state in which a decision could be had may be reviewed by the Supreme Court . . ." 28 U. S. C. § 1257.

on the issues being submitted. The state court held the act did not violate the Federal Constitution and remanded the case for trial. It was argued that the judgment was not "final" for purposes of 28 U. S. C. § 1257. We noted that the point had a "surface plausibility, since it is true the judgment of the State Supreme Court did not literally end the case." *Id.*, 217. We held it "final" however because since if the Act were constitutional the editor would in reality have no defense. Since conviction seemed likely, we concluded that to deny review at this stage would "result in a completely unnecessary waste of time and energy in judicial systems already troubled by delay due to congested dockets." *Id.*, 217-218.

In *Hudson Distributors Inc. v. Eli Lilly & Co.*, 377 U. S. 386, the question on the merits was whether the requirement of a state act setting minimum retail prices was consonant with federal law. The state court held the state act constitutional both under the state and under the Federal Constitutions and remanded the case for further proceedings. In reliance on *Curry* and on *Langdeau*⁴ we held that the fact that there were to be further proceedings in the state court did not render the state judgment "non-final or unappealable within the meaning of 28 U. S. C. § 1257." *Id.*, 389, n.4

The exceptions noted⁵ have a long lineage dating back to Chief Justice Taney's opinion in *Forgy v. Conrad*, 6 How. 201, where the Court held that an interlocutory decree requiring a litigant "to deliver up prop-

⁴ We held in *Local No. 438 v. Curry*, 371 U. S. 543, that a state court judgment was "final" for purposes of 28 U. S. C. § 1257 which issued a temporary injunction against picketing because in its view the National Labor Relations Board did not have exclusive jurisdiction. We did not wait until the litigation had been resolved in the state court, as the state court had finally determined its jurisdiction and erroneously so. *Id.*, 549.

In *Mercantile National Bank v. Langdeau*, 371 U. S. 555, a receiver for a Texas insurance company sued two national banks and the only question tendered on appeal from the state court concerned the question of venue, viz. in what state court could a national bank be sued. It was argued that the state court judgment was not "final" for purpose of 28 U. S. C. § 1257. We rejected that view, holding the judgment "final" saying "we believe that it serves the policy underlying the requirements of finality in 28 U. S. C. § 1257 to determine now in which state court appellants may be tried rather than to subject them, and appellee, to long and complex litigation which may all be for naught if consideration of the preliminary question of venue is postponed until the conclusion of the proceedings." *Id.* 557.

⁵ In *California v. Stewart*, *sub nom. Miranda v. Arizona*, 384 U. S. 436, 498-499, in a capital case the State Supreme Court set aside the verdict on federal constitutional ground and directed that the defendant be retried. He, the respondent, moved that we dismiss the State's petition, which we had granted, for lack of a "final" judgment. We noted, however, that if on a retrial he were acquitted, there was no appeal available to the State. We therefore held that the judgment under review was "final" for our purposes. *Id.*, 498 n. 71.

In *Brady v. Maryland*, 373 U. S. 83, the state court had given a defendant post-conviction relief and remanded the case for retrial on the question of punishment. We took the case to determine whether the suppression of evidence by the prosecution entitled the defendant to a retrial on the issue of guilt as well as punishment. We held that the issue of guilt was quite independent of the issue of punishment and that it was time to decide the due process and/or equal protection questions presented by the state decision.

erty which he claims" is "final" even though a final accounting has yet to be made. *Id.*, 205. Unless that interlocutory order is deemed "final," Chief Justice Taney pointed out, the "right of appeal is of very little value to him and he may be ruined before he is permitted to avail himself of the right." *Ibid.*

It is equally important that we treat the judgment in the instant case as "final," for we have discovered no way by which the licensing authority in North Dakota has of preserving the constitutional question now ripe for decision.

The Board here denied respondent's application without an evidentiary hearing since the application showed that, under the North Dakota Act respondent could in no way qualify for a license. The State Supreme Court held that Act unconstitutional and thus an applicant which fails to meet the requirements of the state statute is nevertheless entitled to consideration for a license. The State Supreme Court indeed directed the Board on remand to reconsider the application "sans" the constitutional question.

There were state law questions to be considered on the remand, for the state board had also rested its denial of a permit on the failure of Snyder's to meet certain structural and safety standards. The Supreme Court remanded for an administrative hearing on those other issues.

If we deny review at this point, respondent has no constitutional barrier to the grant of a license.

The State Licensing authority might of course after an administrative hearing reinstate its earlier findings that the respondent does not meet the necessary structural and safety standards. If respondent is denied a license for that reason, the denial will obviously be on a state ground. If respondent is granted a license, the battle over the constitutionality of the new act will be lost as far as this case is concerned.

There is no suggestion that "the remaining litigation may raise other federal questions," *Radio Station WOW v. Johnson*, *supra*, at 127, "such as is true of the eminent domain cases." *Ibid.* For in those cases the federal constitutional question embraces not only a taking but a taking on payment of just compensation. A state judgment is not final unless it covers both aspects of that integral problem. See *Grays Harbor Co. v. Coats—Fordney Co.*, 243 U. S. 251, 256.

It would appear that, as a matter of North Dakota procedure, the only way in which the Board could preserve the constitutional issue would be to defy its own State Supreme Court and deny the application on the ground of failure to meet the ownership requirement. The State Administrative Agency Practice Act provides that: "Any party to any proceeding heard by an administrative agency" may appeal from the decision of the agency. N. D. C. C. § 28-32-15. The statute appears to treat the agency as a tribunal and not a "party" able to appeal its own order.

If the Board thus grants the license in accordance with the State Supreme Court decision and then seeks to appeal its own grant on the basis of the validity of the state ownership requirement, the appeal may well be dismissed and the dismissal would rest on the independent state ground that state procedural law does not provide the agency the right to appeal.

II

Liggett, decided in 1928, belongs in that vintage of decisions which exalted substantive due process by striking down state legislation which a majority of the Court deemed unwise. *Liggett* has to date not been expressly overruled. We commented on it disparagingly, however, in *Daniel v. Family Security Life Ins. Co.*, 336 U. S. 220, which concerned the constitutionality of a state statute providing that life insurance companies and their agents may not operate an undertaking business and undertakers may not serve as agents for life insurance companies. We noted that *Liggett* held that it was "clear" that "mere stock ownership in a corporation, owning and operating a drug store, can have no real or substantial relation to the public health; and that the act in question creates an unreasonable and unnecessary restriction upon private business," 278 U. S., at 113. In *Daniel*, however, we stated that "a pronounced shift of emphasis since the *Liggett* case," 336 U. S., at 225, had deprived the words "unreasonable" and "arbitrary" of the meaning which *Liggett* ascribed to them. We had indeed held in *Lincoln Union v. Northwestern Co.*, 335 U. S. 525, that a State had power, so far as the Due Process Clause of the Fourteenth Amendment was concerned, to legislate that no person should be denied the opportunity to obtain or retain employment because he was or was not a member of a labor union. After reviewing *Nebbia v. New York*, 291 U. S. 502, *Adair v. United States*, 208 U. S. 161, and *Coppage v. Kansas*, 236 U. S. 1, we said:

"This Court beginning at least as early as 1934, when the *Nebbia* case was decided, has steadily rejected the due process philosophy enunciated in the *Adair-Coppage* line of cases. In doing so it has consciously returned closer and closer to the earlier constitutional principle that states have power to legislate against what are found to be injurious practices in their internal commercial and business affairs, so long as their laws do not run afoul of some specific federal constitutional prohibition, or of some valid federal law. Under this constitutional doctrine the due process clause is no longer to be so broadly construed that the Congress and state legislatures are put in a strait jacket when they attempt to suppress business, and industrial conditions which they regard as offensive to the public welfare."

We reached the same result in *Ferguson v. Skrupa*, 372 U. S. 726, where we sustained the constitutionality of a state law prohibiting persons other than lawyers from engaging in the business of debt adjusting and debt pooling. We said:

"We conclude that the Kansas Legislature was free to decide for itself that legislation was needed to

deal with the business of debt adjusting. Unquestionably, there are arguments showing that the business of debt adjusting has social utility, but such arguments are properly addressed to the legislature, not to us. We refuse to sit as a 'superlegislature to weigh the wisdom of legislation,' and we emphatically refuse to go back to the time when courts used the Due Process Clause 'to strike down state laws, regulatory of business and industrial conditions, because they may be unwise, improvident, or out of harmony with a particular school of thought.' Nor are we able or willing to draw lines by calling a law 'prohibitory' or 'regulatory.'" Whether the legislature takes for its textbook Adam Smith, Herbert Spencer, Lord Keynes, or some other is no concern of ours. The Kansas debt adjusting statute may be wise or unwise. But relief, if any be needed, lies not with us but with the body constituted to pass laws for the State of Kansas."

The majority of the Court in *Liggett* for which Mr. Justice Sutherland spoke held that business or property rights could be regulated under the Fourteenth Amendment only if "the legislation bears a real and substantial relation to the public health, safety, morals, or some other phase of the general welfare," 278 U. S. 111-112. The majority held the ownership requirements governing pharmacies "creates an unreasonable and unnecessary restriction upon private business." *Id.*, at 113. The opposed view stated by Mr. Justice Holmes and concurred in by Mr. Justice Brandeis was:

"A standing criticism of the use of corporations in business is that it causes such business to be owned by people who do not know anything about it. Argument has not been supposed to be necessary in order to show that the divorce between the power of control and knowledge is an evil. The selling of drugs and poisons calls for knowledge in a high degree, and Pennsylvania after enacting a series of other safeguards has provided that in that matter the divorce shall not be allowed. Of course, notwithstanding the requirement that in corporations hereafter formed all the stockholders shall be licensed pharmacists, it still would be possible for a stockholder to content himself with drawing dividends and to take no hand in the company's affairs. But obviously he would be more likely to observe the business with an intelligent eye than a casual investor who looked only to the standing of the stock in the market. The Constitution does not make it a condition of preventive legislation that it should work a perfect cure. It is enough if the questioned act has a manifest tendency to cure or at least to make the evil less."

Those two opposed views of public policy are considerations for the legislative choice. The *Liggett* case was a creation at war with the earlier constitutional view of legislative power, *Munn v. Illinois*, 94 U. S. 113, 132, 134, and opposed to our more recent decisions. *Olsen v. Nebraska*, 313 U. S. 236, 241; *Williamson v. Lee Optical Co.*, 348 U. S. 483, 487-488; *Day-Brite Lighting, Inc. v. Missouri*, 342 U. S. 421, as well as the *Daniel, Lincoln Federal Union*, and *Ferguson* cases already discussed. The *Liggett* case, being a derelict in the stream of the law, is

hereby overruled. We reverse and remand the judgment below and free the courts and agencies of North Dakota from what the State Supreme Court deemed to be the mandate of *Liggett*.

So ordered.

Syllabus

CERTIORARI TO THE SUPREME COURT OF NORTH DAKOTA

No. 72-1176. Argued November 6, 1973—

Decided December 5, 1973

The North Dakota Supreme Court, relying on *Liggett Co. v. Baldridge*, 278 U. S. 105, held unconstitutional a state statute, under which respondent had been denied a pharmacy operating permit, which requires an applicant for such a permit to be "a registered pharmacist in good standing" or "a corporation or association, the majority stock in which is owned by registered pharmacists in good standing, actively and regularly employed in and responsible for the management, supervision, and operations of such pharmacy." The court remanded the case so that petitioner Board could conduct an administrative hearing "sans the constitutional issue," on respondent's alleged failure to meet certain structural and safety standards on which the petitioner had also rested its permit denial. *Held*:

1. This Court does not lack jurisdiction to review the State Supreme Court's judgment, which is "final" within the meaning of 28 U. S. C. § 1257, for it is not apparent how petitioner Board would be able to preserve the constitutional issue now ready for adjudication without defying the State Supreme Court. Pp. 3-8.

2. The North Dakota statutory requirements for permitting the operation of a pharmacy do not violate the Due Process Clause of the Fourteenth Amendment. In enacting the challenged legislation the State was well within its authority "to legislate against what (it) found to be injurious practices in (its) internal commercial and business affairs," *Lincoln Union v. Northwestern Co.*, 335 U. S. 525, 536, and this Court will not substitute its own judgment for what the State feels is reasonably necessary to protect the interests of the public. *Liggett Co. v. Baldridge*, *supra*, overruled. Pp. 8-11.

202 N. W. 2d 140, reversed and remanded.

DOUGLAS, J., delivered the opinion for a unanimous Court.

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The Poison Pen

LOCAL AND SYSTEMIC ANTIDOTES

by G. M. ODERDA, Pharm. D.

and M. S. FURTH, M.D., M.P.H.

Maryland Poison Information Center

University of Maryland School of Pharmacy

INTRODUCTION

The term "antidote" may be commonly used to refer to an agent that counteracts the effects of a poison. For the purposes of this discussion, the term antidote shall include both local and specific systemic antidotes. Agents that are used 1) when chemicals have come in contact with the skin, eyes or mucous membranes or 2) to decrease the absorption of toxic agents remaining in the GI tract shall be termed local antidotes. Specific systemic antidotes are those used to treat the systemic action of a toxic agent, regardless of the route of administration, e.g. percutaneously, parenterally, orally, rectally, etc.

LOCAL ANTIDOTES

Topical Exposure

Various chemicals are quite toxic to the skin, eyes, or mucous membranes, e.g. acids and bases. In most of these situations the problem is a result of direct contact of the tissue involved with the chemical. This is not always the case, since some agents, especially the chlorinated and organophosphate insecticides, may be absorbed percutaneously and cause a systemic problem. If the agent has been absorbed through the skin, one must treat both the topical and systemic effects. If absorption has occurred percutaneously, one must be careful to eliminate any further source of absorption by removing the clothing and washing the hair. It should be noted that an individual who is involved in the treatment of such a patient is at high risk of contamination. Therefore, precautionary measures, such as wearing protective clothing and gloves, should be followed.

Materials spilled on the skin are best removed with large volumes of water. A faucet, garden hose, or shower are often the most convenient means to deliver a large amount of water. As much time may be lost in searching for neutralizing agents, and since some of these agents may produce further injury, water is the agent of choice.¹ In an emergency situation other agents can be used and the literature reports the use of soft drinks, beer, or even urine.² In the event a chemical burn has been produced it should be treated like a thermal burn.

Exposure of the eye to chemicals and household products is a common event. Many of these offenders are packaged in aerosol cans. Instillation of a specific antidote is usually considered detrimental.³ Two exceptions to this rule are the use of BAL for lewisite burns and cocaine for iodide exposure.⁴ The general first aid treatment for eye exposure is again water. It is important that

large volumes of water be used. If the accident occurred in an industrial area, eye baths, designed for this purpose, work quite well and should be utilized. If this is not the case, the patient's head should be placed in a sink and cool or lukewarm water should be run directly into the eye(s) with the lid(s) held open. If only one eye is involved, the head must be held in such a way that the stream of water runs only over the affected eye. Care must be taken that the water does not contaminate the other eye. This procedure should be continued for at least ten minutes. It is at times difficult to convince a child that he should allow his eye to be washed in such a manner. One can try to make a game of the experience. For example "Let's see how long you can hold your head down!" If this is ineffective the child's head can be held firmly and water poured into the eye(s) from a cup or similar container. Unless it is known that eye contact of the chemical produces no damage, each incident must be investigated. The Maryland Poison Information Center has on file ocular toxicity information and we suggest that one contact us directly, or an ophthalmologist, in regard to the toxicity of the compound. It is important to note that topical ophthalmic steroids are contraindicated if the agent was an alkali, as this may interfere with healing processes and later therapy.

Gastrointestinal Tract Antidotes

Local antidotes are used in the gastrointestinal tract to decrease absorption of the ingested agent remaining in the gut. Most of these local antidotes either combine with the ingested agent to form a poorly soluble and therefore less toxic compound or alter it so radically that all toxicity is lost. Some local antidotes act by directly absorbing the chemical.

Potassium permanganate is a useful agent in oxidizing and precipitating alkaloids. No effect is seen with inorganic compounds. Potassium permanganate is especially useful for strychnine, nicotine, physostigmine, coniine and quinine.⁵ Proper concentration of potassium permanganate is 1:10,000 to 1:5000. A concentration greater than 1:5000 should never be used. Potassium permanganate particles are corrosive so care must be taken that all particles are dissolved. This solution is generally administered via a lavage tube.

Milk acts in two ways against ingested agents. Protein reacts with some poisons to form insoluble compounds. Calcium converts fluorides, oxalic acid and oxalates to highly insoluble salts. This neutralization is only temporary and thus its use is best combined with lavage or emesis. It must be remembered that milk may inter-

fere with the action of syrup of ipecac. Milk also acts as a demulcent, that is, it decreases gastric irritation. The absorption of some fat soluble compounds, paradichlorobenzene for example, is increased by milk and thus it must be used judiciously.

Starch solution is an effective local antidote for iodine ingestion. This solution may be given orally, but is more commonly used as a lavage solution. About 80 grams of starch is mixed with 1000 ml. of water and lavage is continued until returning fluid is no longer blue.

Activated charcoal is an odorless, tasteless, fine black powder that effectively absorbs many drugs and chemicals. In order to be effective the activated charcoal must have (1) small particle size and thus a large surface area, and (2) low mineral content (vegetable origin). For these reasons neither charcoal tablets nor burnt toast are effective. When given in adequate dosage activated charcoal is effective with most compounds, but not ethanol, methanol, caustic alkalis, and mineral acids.⁶ From five to ten times the amount of the ingested agent is generally recommended as a proper dose for activated charcoal.⁷ Chemically one ounce of activated charcoal, about four heaping tablespoons, mixed up as a slurry and given by mouth or lavage tube will generally suffice. It is important to remember that activated charcoal absorbs syrup of ipecac and thus renders it ineffective. If activated charcoal and syrup of ipecac are to be used in the same

patient, the activated charcoal must be given after emesis has been successfully induced. Recent research has produced an experimental suspension of activated charcoal that is easier to use, more palatable, and in its first trials appears to be equally effective. This preparation is not yet available for clinical use.

The Universal Antidote is essentially universally useless. This household remedy consists of charcoal (an absorbent), milk of magnesia (an antacid), and tannic acid (a precipitator of alkaloids). From a theoretical standpoint, each of these ingredients should be useful. The latter two agents serve only to decrease the adsorptive capacity of the charcoal. This capacity is small because the charcoal commonly is supplied as burnt toast and thus has too large a particle size to be effective. Activated charcoal should routinely be used in place of the Universal Antidote.

Specific Systemic Antidotes

The systemic effects of a poison may be neutralized by a specific systemic antidote. Unfortunately most poisons do not have a specific antidote. Regardless of the availability of a systemic antidote, good supportive care is essential. Without this supportive care, even the best antidote is of little value. The Table following lists examples of commonly used systemic antidotes. In addition, it is to be noted that generally these specific antidotes can only be administered under the direct, and close

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supervision of a physician, in a medical facility, and are inappropriate for use elsewhere.

One must not forget that other treatment modalities, increasing urine flow for example, may in the broadest sense, be considered antidotes. These treatment modalities will be discussed in future articles.

References

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TABLE
SYSTEMIC ANTIDOTES

POISON	MECHANISM	ANTIDOTE
Anticholinesterases (organophosphates; also the carbamates: neostigmine, pyridostigmine, ambenonium, but NOT carbaryl, dimetilan or carbamoyloximes.)	Atropine, 1-4 mg IM or IV, repeated half-hourly until atropinization is apparent. Pralidoxime chloride, 25-50 mg/kg IV—repeat in 12 hours prn.	Blocks muscarinic effects Regenerates cholinesterase
Botulinus toxin	Botulinus antitoxin (type specific or polyvalent) 50,000 U. IV then 20,000 U/day.	Inactivates toxin.
Carbon monoxide	Oxygen (inhalation).	Hastens carboxyhemoglobin dissociation.
Cholinergic compounds: choline esters, pilocarpine, arecoline, muscarine; also carbaryl, dimetilan and carbamate anticholinesterases other than those listed above.	Atropine (as above). Cholinesterase regenerators should NOT be used.	Blocks muscarinic effects.
Cyanide	Amyl nitrite inhalation pending sodium nitrite, 6-8 ml, 3%/M ² IV slowly. Follow with sodium thiosulfate 12.5 gm IV slowly.	Forms methemoglobin; its iron competes with cytochromes for cyanide. Forms thiocyanate.
Ethylene glycol	Ethanol (as for methanol; see below).	Retards metabolism to oxalate.
Fluoride	Calcium gluconate, 2-10 ml of 10% IV.	Combat hypocalcemia and bind fluoride.
Iron Salts	Deferoxamine, 5 gm po or by tube, then 20 mg/kg IM q 4h, (if in shock 40 mg/kg IV drip over 4 hrs; may repeat in 6 hrs; then 20 mg/kg drip q 12 hr.	Chelation
Lead (Symptomatic)	Dimercaprol (BAL), 4 mg/kg IM; in 4 hrs, edathamil 12.5 mg/kg; repeat both q 4 hrs.	Chelation
Metals: Antimony, arsenic, bismuth, gold, mercury, nickel	Dimercaprol, 3-5 mg/kg IM q 4 hr on days 1-2; q 6 hr on day 3; then q 12 h for 10 days or more.	Complexation
Cadmium, chromium, cobalt, copper, manganese, radium, selenium, uranium, vanadium.	Edathamil calcium disodium, 15-25 mg/kg q 12 h IV for 5 days; interrupt for 2 days then additional courses as dictated by severity.	Chelation
Methanol	Ethanol 0.75 mg/kg IV; then 0.5 mg/kg IV for 4 days; Sodium bicarbonate, 4 MEq/kg IV q 4 h prn	Retard formation of toxic metabolites; Prevent or correct acidosis.
Methemoglobinemic agents: nitrites, anilines, chlorates, phenacetin, etc.	Methylene blue 1-2 mg/kg IV as solution if cyanosis severe.	Reduce methemoglobin
Narcotics (and substitutes)	Naloxone, 0.4 mg initially in adults, or levallorphan 0.02 mg/kg or nalorphine 0.1 mg/kg as needed.	Specific antagonism
Oxalate	Fluoride	Precipitation; corrects hypocalcemia.
Warfarin, etc.	Vitamin K1 or K1 oxide, 0.5-1.0 mg/kg IV or IM	Corrects hypoprothrombinemia.

Adapted from *Pharmacologic Principles in the Treatment of Poisoning*, Alan R. Done, M.D., *Pharmacology for Physicians*, Vol. 3, No. 7, pp. 1-10, July 1969.

Maryland Board of Pharmacy News

Pharmacy Changes

New Pharmacies

The following are the pharmacy changes for the month of January:

The Pharmacy—AID Drugs, Leslie Feldman, President; 8775 Cloudleaf Court, Columbia, Maryland 21045.

Dart Drug Corporation, College Plaza, Herbert H. Haft, President; 15136 Frederick Road, Rockville, Maryland 20850.

Revco Discount Drug Center, Sidney Dworkin, President; Ames Plaza, U.S. Route 40, Edgewood, Maryland 21040.

Changes of Ownership, Address

Chestertown Pharmacy, Vito Tinelli, Jr., (Change of ownership); 329 High Street, Chestertown, Maryland 21620.

Northwest Community Professional Pharmacy, Arnold Smolen, President (Change of ownership); 4413½ Park Heights Avenue, Baltimore, Maryland 21215.

No Longer Operating As Pharmacies

Park Pharmacy, Raymond Sachs and Jack Gelrud, 6 Coral Drive, North Lexington Park, Maryland 20653.

Church Street Pharmacy, Guy C. Kelley, 420 East Church Street, Salisbury, Maryland 21801.

GEM Pharmacy, Willard A. Small, President; 2421 Chillum Road, Hyattsville, Maryland 20782.

GEM Pharmacy, Willard A. Small, President; 5100 Nicholson Lane, Kensington, Maryland 20795.

GEM Pharmacy, Willard A. Small, President; 6501 Baltimore National Pike, Baltimore, Maryland 21228.

GEM Pharmacy, Willard A. Small, President; 7930 Eastern Boulevard, Baltimore, Maryland 21224.

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Washington Spotlight For Pharmacists

By
APhA Legal Division

A Lesson from The Maryland Supreme Court's Decision On Prescription Price Advertising

The Maryland Supreme Court has recently ruled as unconstitutional a state statute prohibiting price advertising of prescription drugs. This case follows several similar state court decisions.

The majority opinion of the Maryland Supreme Court was hardly flattering to pharmacists. The Maryland State Board of Pharmacy argued before the Court that pharmacy is a profession effecting the public health and the state may prohibit unseemly practices which lower pharmacy's professional standards. Further, the Board of Pharmacy argued that advertising of drug prices will encourage the patient to shop around, thus preventing the pharmacist from effectively monitoring the patients' prescriptions. The Court found these arguments unpersuasive and stated that pharmacies are predominantly engaged in a retailing enterprise and that monitoring "which may have been common in the past, hardly exists today."

Of the seven judges on the Maryland Supreme Court, one judge dissented and stated that he would uphold this statutory prohibition against price advertising of prescription drugs. When addressing the question of prescription monitoring, the judge stated:

Approximately a year ago, I witnessed monitoring in action. When presented with a prescription, an alert, conscientious pharmacist noted from his record that the patient was allergic to a certain type of drug. He then called the prescribing physician before filling the prescription. Fortunately, in that situation, the physician had already taken the known allergy into consideration and was of the opinion that the particular drug would have no adverse effect. Under other circumstances, however, the action of the pharmacist might well have prevented disastrous results.

Perhaps because of his personal experience, the judge recognized the benefit to the public of pharmacists monitoring prescription orders. Thus, this judge recognized prescription monitoring by the pharmacist as a rational basis for the Maryland General Assembly's decision to prohibit prescription price advertising and determined that the Maryland statute should be upheld. In his dissenting opinion, the judge gives additional basis for his decision to uphold the Maryland statute.

The American Pharmaceutical Association commissioned the Dichter Institute to report on what consumers

think about pharmacists and pharmacy and what pharmacists can do to improve the public's understanding of pharmacy practice. The judge's personal experience with prescription monitoring as a valuable public service is substantiated by the findings of the Dichter Institute psychologists.

The Dichter Institute reported that the public assumes the pharmacist packages each prescription medication according to the physician's instructions. As these tasks are the least a pharmacist can do and still be called a pharmacist, the public doesn't place too high a value on these tasks. What the public values highly and regards as marks of true professionalism is the availability of additional safeguards to the public health, such as prescription monitoring by the use of patient record systems. Making certain that a medication is "right" for the patient was the most desired of nine services mentioned to survey subjects in the Dichter Institute study.

The Maryland Supreme Court justice's experience with prescription monitoring, backed up by the findings of professional psychologists, must serve as an example to pharmacists of those services that patients expect and, indeed, deserve from pharmacists. The Dichter Institute psychologists stated in the conclusion of their report:

Our research shows a strong desire for the return of the personal pharmacist and the re-establishment of a professional relationship between the pharmacist and the patient. This will not come easily—rebuilding never does. However, with a proper understanding of the attitudes of today's patient, and with a concerted effort on the local and national levels to communicate the awareness and value of comprehensive pharmaceutical services, it can be done.

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Maryland Society of Hospital Pharmacists

The January meeting of the Maryland Society of Hospital Pharmacists was held at the Good Samaritan Hospital in Baltimore. The guest speaker was Dr. Warren Summer, Chief of Respiratory Therapy at Good Samaritan Hospital and Assistant Professor of Medicine at Johns Hopkins University. Dr. Summer discussed drugs and treatment used in his field.

The results of the 1973 ASHP membership drive were announced. The ASHP membership now exceeds the 10,000 level with 209 members from Maryland. Patrick Birmingham presented a preliminary report for the Nominating Committee. New members of the Society were Ellen H. Yankellow, Donald R. O'Brien, Richard S. Lipov, Joseph S. Fannella and Gary Lee Fox.

Eastern Shore Pharmaceutical Society

The Winter Meeting of the Eastern Shore Pharmaceutical Society was held in the Federalsburg Fire House on January 20, 1974. Dr. Thomas Sisea conducted a continuing education seminar and a slate of new officers was presented for consideration of the members.

A.Z.O. News

A brief film entitled "Female Pelvic Examination" was presented at the January 23 regular meeting of Alpha Zeta Omega Pharmaceutical Fraternity. Final plans were discussed for the February 20 "stag" and the March 17 Joint Dinner Meeting at Annabel's in Towson.

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Prescription Insurance Programs Revisions of Third Party Information

Please note the following changes pertaining to the summary of Third Party Programs which appeared in the September, 1973 issue of *The Maryland Pharmacist*.

1. P. 24 Prescription Plan Service, Inc. (N.M.U. Welfare Plan)—will pay for insulin at cost plus fee.
2. P. 24 Paid Prescriptions—Submit claims to: Paid Prescriptions, Clifton Data Center, P.O. Box 414, Hackensack, N.J. 07602. Phone 201-646-1700.
3. P. 24 Plumbers Local 48 formerly administered by Paid Prescriptions—now administered by Prescription Drugs, Inc.
4. P. 24 Carpenter Union formerly administered by Paid Prescriptions — coverage discontinued. All claims must be submitted by May 31 to be honored. Now administered by Prescription Drugs, Inc.
5. P. 26 Union Prescription Plan—Must call for pre-authorization if cost of ingredients is over \$15.00.
6. Plans which pay for items requiring a prescription under state law will also pay for items requiring a prescription under local law if you are affected by it. Claims rejected by computer should be returned with appropriate note.

Jan. 1974

THIRD PARTY REFERENCE CHART

NOTES:

U & C means Usual and Customary price will be paid (not higher than cost + 1/2%). Most programs cover dependent on family card up to age 19. Some cover up to age 21-3-25. This is usually embossed on card as C25 or D 23 etc.

"Specified List" of items that can be dispensed in 100 dose amounts means you must refer to program booklet to see which medicines or which conditions this refers to. Unspecified—your judgment on whether maintenance, BC - Birth control

MEDICAID NOTES:

OTC Internal medicine - \$1.00 minimum total price.
Antibiotics - 10 day supply without prescription.
Refills on antibiotics - Hexavitamin only
if refills on antibiotics. Prescription needed
for supplies without prescription. Prescription needed
for supplies over \$5.00, RX or OTC coating over \$10. Call for
subdivision for prescription. May need diagnosis.
dietary supplements without prescription, 90 day total
medication maximum including refills.

U.S.P. Drug Defect Reporting Program

The following are some examples of action brought about by pharmacists through the U.S.P. Drug Defect Reporting Program. No reflection on any particular manufacturer, distributor, pharmacist or product is intended or should be inferred from these case studies.

CASE STUDIES

A. *Diethylstilbestrol Tablet Recalled*

A report from an alert hospital pharmacist in Arkansas led this firm to decide to recall their product. The pharmacist reported finding tablets of varying thickness in a bottle of Diethylstilbestrol Tablets. As the tablets varied in thickness, so did the potency. As a result of this report, and a second received from another pharmacist, the firm quarantined all stocks on hand, and then recalled all outstanding lots.

B. *Leaking Plastic Dropper Bottles*

FDA investigated reports of leaking plastic dropper bottles used for ophthalmic solutions. A check at this firm indicated that the firm felt the leakage problem was caused by capillary action and oozing. As a result of these reports, the firm is currently redesigning the cap to end the problem.

C. *Odor in Synthetic Penicillin Capsules*

Reports have been received of sulfur-like odor, pressure in the bottles, and leaking capsules, all involving a synthetic penicillin. Investigation by FDA at the firm disclosed that the sulfur odor is inherent to the product, as is the problem of pressure build-up. As a result of receiving these reports, the firm has included Silica Gel capsules in these bottles, which should eliminate both the pressure build-up and odor problems.

D. *Light Sensitivity*

Several reports mention a fading dye in the coating of a tablet of an antidepressant medication. Earlier reports led the firm to redesign the shelf containers used for the drug and an opaque plastic is now used. New reports, however, involved unit dose blister packages. Since the blisters are in opaque shelf boxes, it suggests that the unit dose packages are being removed from the cartons and stored in the sunlight or directly under fluorescent lights.

This product also experienced a problem involving the discoloration of the plastic component of its blister packages. However, this problem has been remedied by the firm by changing the composition of the plastic material.

E. *Label Mix-Up*

This report concerned a labeling mix-up involving a codeine containing analgesic preparation. Properly labeled unit dose packets of one strength were contained in a shelf package labeled with another strength. Inspection revealed that the one dosage form became mixed in with

the other while held in bulk storage. As a result of this drug defect report, the firm put a stock freeze upon the lot involved. The firm has instituted new labeling controls to minimize the chances of a similar mix-up in the future. All distribution warehouses have been checked by the firm, and the lot involved has been withdrawn from sale.

F. *Purified Water*

This report from a New Jersey pharmacist concerned Purified Water, U.S.P., in plastic containers which leaked no matter how tightly the cap was closed. Furthermore, they were not properly labeled. It was investigated by the State Department of Health in which the company was located. The firm is now installing new equipment, and has assured the State that the new equipment will resolve the leak problem. They will also print new labels which will comply with the requirements of the Pharmacopeia.

G. *Aluminum Caps on Injectables*

A report was received from a Wisconsin hospital pharmacist indicating insufficient crimping of aluminum caps on the firm's 1 ml. vials of an injection. As a result of the report, to correct the problem, the firm is now using longer skirted caps and a modified crimping procedure. The firm has written the pharmacist to tell him of the changes, and thanking him for his interest and concern for the quality of their products.

H. *Inconspicuous Federal Caution*

A community pharmacist in Chicago reported finding a steroid cream whose label did not bear the Federal caution legend. Actually, the product had a peel-off label and the caution legend was on the reverse side. The firm has changed labels so that the legend is now on the front panel where it will be readily visible.

I. *Moisture-Sensitive Coating*

A hospital pharmacist in Idaho wrote in reporting that the coating on an estrogenic preparation was bleached and eroded away. The firm responded directly to the pharmacist informing him that the problem had been experienced previously and that it had been traced to excess adventitious moisture. They also informed the pharmacist that they have since re-examined their manufacturing and filling procedures and have taken precautionary measures to eliminate opportunities for the tablets to be exposed to these conditions.

J. *Strength Declaration Enlarged*

An Iowa pharmacist wrote in pointing out that he believed the size of the type used to print the strength designation on the label of a brand of Digoxin Tablets was too small. He also mentioned that he had called this to the attention of the manufacturer's representative, to no avail. Upon receipt of his report, the firm wrote back informing him that they agreed with his observation and

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were going to change the label to allow for larger size printing in accordance with his recommendation.

K. Inaccurate Unit Dose Package

A Rhode Island hospital pharmacist reported receiving a unit dose package containing two tablets instead of one. The firm wrote back directly indicating they had inspected their inventory and, although they believed it to be an isolated instance, informed him that they would be adding inspectors to their packaging line for the sole purpose of inspecting for this problem. They also cautioned their machine operators to observe closely the operation of the feeding chute and to keep the mechanism free of tablet dust.

CASE STUDIES

A. Precipitating Sodium Pentobarbital Injection Recalled

A hospital pharmacist in California submitted Ampuls of Sodium Pentobarbital which contained a precipitate. After analysis of the sample, the FDA concluded that the precipitate was the pentobarbital which was coming out of solution. This resulted from a change in pH of the solution which was caused by leaching from the glass ampuls. The product was recalled by the firm.

B. Leaking Ophthalmic Solutions

As a result of several reports from pharmacists and nurses regarding leakage and some difficulty in expressing ophthalmic solutions from plastic containers without the tip becoming dislodged from the container and possibly being propelled into the patient's eye, one manufacturer is redesigning its entire ophthalmic solution dispensing system in order to eliminate the problems and to improve the system in general.

C. Non-Approved Drug Recalled

A pharmacist from Maryland reported that an analgesic suppository preparation lacked general pharmaceutical elegance in that some were streaked, or contained air pockets, and that one even contained a splinter. Upon investigation, the FDA discovered that the product was being marketed without an approved New Drug Application. The firm recalled the drug.

D. Precipitating Protein Hydrolysate Recalled

The gross contamination noted in a protein hydrolysate injection by a South Carolina hospital pharmacist was analyzed and identified as a tyrosine precipitate from the solution. The firm recalled the product from the market.

E. Contamination

A Kentucky pharmacist reported black specks in an oral liquid asthma preparation. The firm upon investigation found that the foreign material was coming from the plastic bottle cap closure. To eliminate the problem, the firm installed an air blower and vacuum attachment on the chute that delivers the caps to the assembly line. To provide additional assurance that this problem will not occur again, the firm plans to also install an air deionizing unit.

F. Skeletal Muscle Relaxant Recalled

The observation submitted by a Virginia pharmacist reporting contamination of a skeletal muscle relaxant injection led to a recall of the product because of the particulate matter.

G. Inaccurate Package Insert

Due to the keen observation of a Massachusetts hospital pharmacist, one firm is changing its antibiotic package insert. The pharmacist noted that the firm listed an adjunctive drug to be administered by the IV route, when in actuality the drug is available only in the oral dosage form.

H. Difficulty in Opening Unit-Dose Container

One firm that offers some of its products in unit dose, recently altered its containers to make for easier withdrawal of the unit dose medication following a report from a California nurse that her hospital was having difficulty in removing the individual tablets from the container.

I. Crystal Formation on Tablets

A community pharmacist from New Jersey observed crystal formation on the tablets of an analgesic preparation. The crystallization was due to degradation of the aspirin component in the preparation. This resulted in the firm's removal of the product from the market.

J. Faulty Disposable Syringes

An alert hospital pharmacist from Washington, D.C. reported problems with a line of disposable syringes causing them to be recalled. In one instance, the drug contained in the syringe was discolored; in other instances the drug had leaked out and the syringes were empty. The firm investigated the problem and discovered that the syringes had not been manufactured properly in that the vial flanges were weak and often cracked. In addition the syringe barrel caps were loose fitting.

K. Particulate Matter

A Michigan pharmacist reported observing an unusually large amount of particulate matter after reconstituting an injectable antibiotic preparation. His report led to a recall of that particular lot involved.

L. Unstable Diagnostic Kit

One report came in through the laboratory product reporting program involving a diagnostic kit for measuring serum thyroxine. The laboratory supervisor reported that, in testing the kit for possible use in his lab, the results were often erroneous in that normal patients were categorized as hypothyroid. Upon investigation it was discovered that the test kit was not stable and the kit was subsequently recalled.

M. Confusing Label

A pharmacist from California complained that the label for a prenatal vitamin preparation was misleading. The quantity of folic acid present could easily be mistaken for 10 mg instead of one mg. The firm thanked the pharmacist for his observation and reported to him that they were redesigning the label in order to make it clearer.



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John T. Meeth

John T. Meeth, 78, a 1915 graduate of the University of Maryland School of Pharmacy, died on January 24. He had been proprietor of the Rossberg Pharmacy in Catonsville until his retirement in 1970.

Samuel G. Block

Samuel G. Block, 71, a charter member of Alpha Zeta Omega National Pharmaceutical Fraternity, died on January 28. He graduated from the University of Maryland School of Pharmacy in 1921.

Albertus B. Peters

Albertus B. Peters, a 1933 graduate of the Milton School of Pharmacy, died on January 28. He operated the Peters Pharmacy near Memorial Stadium for 18 years and was a former member of the Maryland Pharmaceutical Association.

Byron I. Millenson

Byron I. Millenson, 62, Vice President and General Manager of radio station WCAO, died on January 22. A philanthropist and active in many civic and professional groups, Mr. Millenson was a former Honorary President of the Baltimore Metropolitan Pharmaceutical Association.

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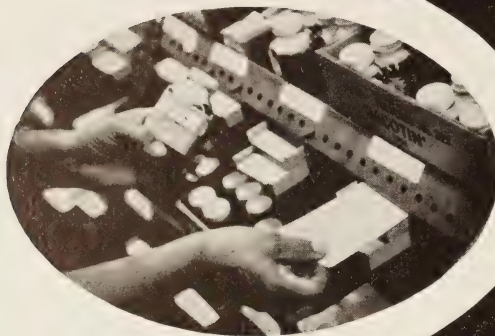




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Pharmaceutical Standards For Participation In Nursing Homes

by John Gimon

The Poison Pen . . .

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by Gary M. Oderda, Pharm.D. and
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DRUG SAMPLES AND THEIR DISTRIBUTION

Drug sampling is one of the oldest techniques used to induce physicians into prescribing a company's product. It accounts for approximately 30 per cent of a manufacturer's promotional dollar¹ yet nearly one-third of all samples received by physicians are discarded or in some other way wasted.² It is no surprise that recent U.S. Senate Health Subcommittee hearings looked into the matter of pharmaceutical detailing and promotion.

At the hearings it was pointed out what many of us in Pharmacy have known for years—that drug samples are sometimes disposed of by physicians in nearby pharmacies in return for merchandise and that unethical physicians and pharmacists have been dispensing sample merchandise and charging patients for the same. Physicians' secretaries and nurses frequently have unlimited access to drug samples and this provides another area for sample misuse.

Drug samples are often abused in institutions also. In an effort to control drug distribution, most hospital pharmacies require that company representatives leave all drug samples in the hospital pharmacy. Supposedly these samples are to be dispensed to indigent patients. Unfortunately, this is not always the case. Also, many drug companies routinely mail samples directly to the entire intern and resident staff of the hospital. In many hospital pharmacies which are cramped for space to begin with, samples occupy valuable storage space, are poorly controlled, and many are eventually discarded because of lack of use or demand.

A few years ago, one major manufacturer discontinued the practice of mailing out unsolicited samples and of distributing samples through company representatives without specific requests from physicians. This policy is to be commended. Unfortunately not many other drug companies followed suit.

Other companies have instituted prescription starter supply replacement programs whereby the physician gives his patient a prescription to be filled at his pharmacy and the pharmacist is reimbursed by the manufacturer for the amount of medication dispensed. This system also diminishes the potential for drug sample misuse. In a newer variation of this system, an independent firm sends out lists to physicians on which the physician can check off a number of drugs he wishes to receive as samples. The independent firm obtains the drugs from the manufacturer and distributes them to the physician. It is claimed that in this manner, physicians only receive drugs which they actually request. Obviously, the independent firm stands to profit if it can persuade physicians to request a larger volume of samples. There also seems

to be much potential for misdirected distribution with this system.

While there may be some worthwhile advantages in distributing samples, particularly in the case of new drugs, drug manufacturers must also consider the tremendous amount of money wasted on samples and the potential for misuse and or abuse created by haphazard sampling policies. Certainly blanket mailings of samples to physicians is unwarranted and this practice should be discontinued. Much time has been wasted by employees cutting out individual tablets and capsules from foil packaged sample packaging for the purpose of reducing the space they occupy. The same is true in pouring small bottles of liquid samples into larger containers for reuse.

It is unfortunate that it will now take special legislation to curb abuses in drug promotion and sample distribution. Meanwhile, physicians are urged to clean out their closets and to properly dispose of unused drug samples and pharmacists are urged to do the same in their pharmacies. Manufacturers should review their sample distribution policies especially when the processing of samples frequently means the shutting down of regular manufacturing lines for days at a time leading to shortages in supply of routine items. The disadvantages of sample distribution must be weighed against the advantages and sound policies must be developed at all levels of handling.

—Normand A. Pelissier

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2. Owens, C.V., "Scriptstarter: An Answer to Physician Sampling," *JAPhA*, NS3, No. 10 (Oct. 1963)

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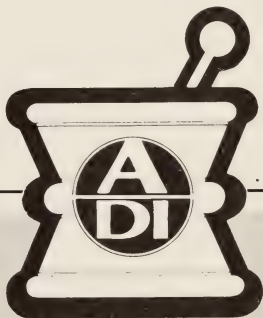
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Pharmaceutical Standards For Participation In Nursing Homes

by JOHN GIMON, Pharmacy Consultant
Commission on Health Service.

United States Public Health Service,
Department of Health Education and Welfare, Region III

*Presented at the Center of Adult Education,
College Park, Maryland, September 21, 1973*

The following are proposed standards for participation for pharmaceutical services required by Medicare and Medicaid as required by Public Law 92-603 or as formerly known as HR-1. These proposed rules were published in the *Federal Register*, Volume 38, No. 133—Thursday, July 12, 1973. At this time the standards are proposed and will not become official for at least two or three months. Until they become official the present standards will be effective. In the case of pharmaceutical services, I would like to first present to you some background information on the Medicare and Medicaid programs.

The Congress of the United States had declared that health care is a right of every citizen of our country and the American Medical Association has endorsed this principle. At present time, there are three major methods of payment for personal health care services:

1. Private payment—individuals paying for their health care services directly through no intermediary.
2. Private insurance—individual insurance or an employer sponsored insurance.
3. Public insurance—mainly welfare (Medicaid). Medicare and most likely in the near future, National Health Insurance.

In 1972, 7.6 per cent of the Gross National Product was spent in the health care field. The federal government's share of this 7.6 per cent was almost 5.3 per cent. Of the total health care dollars spent in the U.S. in 1972, 9.5 per cent was spent on drugs which do not include drugs used in hospitals.

In the Medicare program there are approximately 21 million persons 65 years or over that are eligible to receive medicare services. The Medicare program is a total federally sponsored program. The major benefit exclusions under Medicare are:

1. Drugs out of the hospital and in extended care facilities. The person must pay for his drugs in these situations.
2. Custodial care.
3. Health exams, foot care, immunizations and dental care.
4. Dentures and hearing aids.

There are other exclusions but these four are the major exclusions.

Even though the patient must pay for his medications while in an extended care facility or skilled nursing

home, the skilled nursing home must meet the conditions of participation for pharmaceutical services.

In January of 1973 there were 15.1 million persons in the Medicaid program. Medicaid is a federal and state sponsored program administered directly by the states. All the states with the exception of Arizona participate in the Medicaid program.

A facility is certified on a yearly basis and is surveyed by a state agency surveyor at least yearly. State agencies may visit or resurvey institutions where necessary to ascertain compliance or to accommodate to periodic or cyclical survey programs. There are approximately 1600 surveyors now doing surveys for the two programs.

The Medicare and Medicaid programs require the services of a pharmacist in an extended care facility or skilled nursing home and they do have identical requirements and specific conditions of participation. Both programs require the involvement of the pharmacist in five major areas. These five areas remain the same for the present and proposed standards.

- A. Preparing, updating and carrying out of the policies and procedures for pharmaceutical services.
- B. Providing the properly ordered medication for the patient.
- C. Inspection of nursing station medications and physician's orders.
- D. In-service education by the pharmacist for the facility staff (nursing, administration and others).
- E. Reports of visits and activities.

The provisions of pharmaceutical services to a participating skilled nursing facility may be provided for in two methods:

1. Employment of a full time licensed pharmacist.
2. A part-time pharmacist who is considered a staff member of the facility to administer the pharmacy department.

The proposed standards also have some definitions relating to the pharmaceutical services that I would like to give to you first before actually spelling out the standards.

1. Pharmacist—a person who is licensed as a pharmacist by the state in which practicing and who has training or experience in the specialized functions of institutional pharmacy, such as residencies in hospital pharmacy seminars on hospital pharmacy and related training programs.

2. Approved drugs and biologicals.

(a) In the case of medicine-only those drugs and biologicals included or approved for inclusion in the *U.S.P.*, *N.F.*, *U.S. Homeopathic Pharmacopeia* or those included or approved for inclusion in the *A.M.A. Drug*

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Evaluations or Accepted Dental Therapeutics except those not included in the previous mentioned compendia but which may be considered approved if such drugs were furnished to the patient during his prior hospitalization and were approved for use during a prior hospitalization by the hospital's pharmacy and drug therapeutics committee or equivalent and are required for the continuing treatment of the patient in the facility.

(b) In the case of Medicaid all those drugs and biologicals included in a listing approved by the State Title XIX agency. Drugs and biologicals for both Medicare and Medicaid programs are not considered approved if the FDA has made an initial determination published in the *Federal Register* that there is a lack of substantial evidence of effectiveness for all indications.

3. Controlled drugs—drugs subject to the Comprehensive Drug Abuse Prevention and Control Act of 1970 (P.L. 91-513).

4. Drug administration—an Act in which a single dose of a prescribed drug or biological is given to a patient by an authorized person governing such acts. The complete act of administration entails removing an individual dose from a previously dispensed, properly labeled container (including a unit-dose container) verifying it with the physician's orders, giving the individual dose to the proper patient and recording the time and dose given.

5. Drug dispensing—an act entailing the interpretation of an order for a drug or biological and, pursuant to that order, the proper selection, measuring, labeling, packaging, and issuance of the drug or biological for a patient or for a service unit of the facility. Whether drugs and biologicals are obtained from community or institutional pharmacists or stocked by the facility, the skilled nursing facility is responsible for providing such drugs and biologicals for its patients, insofar as they are covered under the programs, and for ensuring that pharmaceutical services are provided in accordance with accepted professional principles and appropriate federal, state and local laws.

Standard A—Supervision of Services

The pharmaceutical services are under the general supervision of a professionally competent staff for developing, coordinating and supervising all pharmaceutical service. The pharmacist (if not a full-time employee) devotes a sufficient number of hours during a regularly scheduled visit to carry out these responsibilities. The pharmacist reviews the drug regimen of each patient at least monthly and reports any irregularities to the attending physician. The pharmacist submits a written report on the status of the facility's pharmaceutical service and staff performance at least quarterly.

Standard B—Control and Accountability

The pharmaceutical service has procedures for control and accountability of all drugs and biologicals throughout the facility. Only approved drugs and biologicals are used in the facility, and are dispensed in compliance with federal and state laws. Records of receipt and disposition of all controlled drugs are maintained in sufficient detail to enable an accurate reconciliation. The

pharmacist determines that drug records are in order and that an account of all controlled drugs is maintained and reconciled.

Standard C—Labeling of Drugs and Biologicals

The labeling of drugs and biologicals is based on currently accepted professional principles, and includes the appropriate accessory and cautionary instructions as well as the expiration date when applicable.

Standard D—Pharmaceutical Services Committee

A Pharmaceutical Services Committee (or its equivalent) develops written policies and procedures for safe and effective drug therapy, distribution, control and use. The Committee is comprised of at least the pharmacist and one physician. The committee oversees pharmaceutical service in the facility, makes recommendations for improvements and monitors the service to ensure its accuracy and adequacy.

These are the standards under pharmaceutical services. Throughout the other sections there are other standards which involve the pharmacist such as under nursing services standard H: Conformance With Physician's Drug Orders:

Drugs are administered in accordance with written orders of the attending physician. Drugs not specifically limited as to time or number of doses when ordered, are controlled by automatic stop orders or other methods in accordance with written policies. Physician's oral orders for drugs are given only to a licensed nurse, pharmacist, or physician and are immediately recorded and signed (Oral orders for Schedule II drugs are permitted only in the case of a bona fide emergency situation). Such orders are counter-signed within 48 hours. The attending physician is notified of an automatic stop order prior to the last dose so that he may decide if the prescription is to be renewed.

Also Standard I: Storage of Drugs and Biologicals—

Drugs and biologicals in all areas of the facility are securely stored and maintained. Procedures for storing and disposing of drugs and biologicals are established by the Pharmaceutical Services Committee. All drugs and biologicals including those that require refrigeration are stored in locked compartments, and only authorized personnel have access to the keys. Separately locked, permanently affixed compartments are provided for storage of controlled drugs listed in Schedule II in the Comprehensive Drug Abuse Prevention and Control Act of 1970 and other drugs subject to abuse, except under single unit package distribution systems in which the quantity stored is minimal and a missing dose can be readily detected. An emergency kit approved by the Pharmaceutical Services Committee is kept readily available.

Two major changes in the proposed standards are the monthly review by the pharmacist of the patient's drug regimen and the provisions for the unit dose drug distribution systems. The unit dose drug distribution system is recommended as the system of use.

I have gone over the standards required for pharmaceutical services as it relates to Medicare and Medicaid.

I mentioned earlier that the pharmacist has a meaningful involvement in five areas which relate back to the standards.

1. Policies and procedures for pharmaceutical services are required under the standard and the standards require that a pharmacist must be involved in developing these policies and procedures.

2. Providing the properly ordered medication for the patient.

3. Inspection of nursing station medication centers and physician's orders. Here the standards again require proper storage, handling, administration and procedures. The pharmacist should be checking these areas periodically to see that these conditions are being met.

4. In-service education by the pharmacist. Under Nursing Services there is the standard that there must be an in-service educational program. The pharmacist should also be providing some of the in-service education for the nursing services to fulfill this requirement.

5. The last is the reporting of visits and activities. With a full-time, part-time or consultant pharmacist a report should be made to the administrator of his activities and visits. The report should also give an explanation of the deficiencies such as the failure to follow proper procedures, needs for training of the staff and the inaccurate transcribing of medication orders. Also, the report should lay out a plan for correction of the deficiencies the pharmacist has found.

PHARMACY CALENDAR

May 9 (Thursday) — Maryland Society of Hospital Pharmacists meeting at St. Joseph's Hospital, Towson.

May 9 (Thursday)—Joint Program—Baltimore County Unit, A.C.S. - MPhA - BMPA - School of Pharmacy. "Pharmacist's Role in Cancer," special program for women, continuing education credits. New Hilton Inn, Pikesville, 7:00 p.m.

May 29 (Wednesday)—Graduation Banquet, University of Maryland School of Pharmacy, Eudowood Gardens.

June 23-27—92nd Annual Convention, Maryland Pharmaceutical Association, Downingtown Inn, Downingtown, Pa.

June 28-30—Ninth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Williamsburg, Virginia.

July 14-18 — National Convention, Alpha Zeta Omega Pharmaceutical Fraternity, International Hotel, Freeport, Bahamas.

August 3-9—American Pharmaceutical Association Annual Meeting, Chicago.

September 29-October 4—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas.

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Drug Utilization

THE GLENWOOD DETOXIFICATION PROGRAM*

by Samuel Lichter, Chief Pharmacist,
The Union Memorial Hospital, Baltimore

When the Glenwood Life Center Clinic was begun in 1971, its medical director, Dr. N. D. List, who had out-patient privileges at the Union Memorial Hospital in Baltimore, contacted the hospital's chief pharmacist about working in the program. Dr. List felt this person could help organize the preparation and dispensing functions of the program and also provide a resource on the clinical aspects of drug information and general pharmacology. Glenwood is a neighborhood clinic, totally separate from the hospital. The part-time position involved supervising the pharmacy side of the operation. A second pharmacist was recruited to actually prepare, bottle and label the doses which is a somewhat more complex task than at the average methadone maintenance clinic.

Glenwood is a short-term maintenance (or long-term detoxification) program in which patients are tapered off methadone in three to six months. As each program member is in some stage of the detoxification process, his dosage is being constantly adjusted. With such frequent dosage changes, and the dispensing of critically accurate small dosages especially near the end of detoxification, the pharmacist's work is more complex than it would be if Glenwood were a long-term maintenance program. The number of different dosages to be prepared is 3 to 4 times the number used for maintenance programs.

Program applicants undergo an elaborate intake procedure including psychological testing and evaluation, medical examination, a medical and drug history, and interviews with nurses and other members of the clinic's counselor staff. At a conference, the records of intake interviews are examined, problems are analyzed in terms of single or multiple drug dependence, and an equivalent starting dose is determined for the patient, should he be accepted to the program. The pharmacist's input at this stage often concerns the possible antagonistic or synergistic interaction of methadone and other drugs the patient may take, including such drugs as barbiturates and diazepam.

Diazepam is a drug often abused by program patients. It is, as everyone knows, popular on the street. We, ourselves, used to often prescribe diazepam during the detoxification process, especially as the methadone dosage got down to about 30 milligrams. But we're trying to replace diazepam with propoxyphene napsylate or other medications now.

The addict's motivation to detoxify is the essential key. Before beginning detoxification, we first build our patients up to a stabilizing dose of methadone. The patient stays on the stabilizing dose for awhile until we decide to start detoxification. The length of time varies for each member. Often the patient himself has been so

oriented to detoxification by our staff that he suggests that he is ready to start the process. He's always consulted, and always told when it starts, but he doesn't know the actual dose, or when it's changed. Nor, at the moment, does the counselor know the actual dosage. We've tried it both ways, telling and not telling the counselor, and can't decide which method works better.

To determine how much tapering off is affecting the patient, we use the patient's own reports and observe clinical indications. The fact that the patient is working, or going to school aids in determining whether a gainful life-style is being pursued.

Urine testing of our patients is a legal requirement, however, all samples are sent to an out-of-state laboratory which has an annual contract with State-funded programs for drug abuse urine assays. There is a time lag in obtaining results and, we've sent a selection of identical samples to both the contract laboratory and a local laboratory and have received significantly different results. Consistently reliable results are more difficult to obtain than reliable reports from members. Because the patient's status with the program (probation, suspension, dismissal) is affected by urine test results, we feel that the results should be as accurate and reliable as possible.

Our present turnaround time for assays is more than a week and the data could be more useful if it were more timely. A meeting is held each Wednesday to review the progress of one-third of the patients, and up-to-date urine tests results would be much more useful than the one to two-week old data we now have to use. Patient reliability would be greatly improved.

Some of our urine tests are for groups of drugs rather than for a specific drug. Diazepam, for example, cannot be assayed directly (except with specially designed analytical procedures) because it's excreted as a group of metabolites which are not chemically identical to diazepam. Our samples are tested for the benzodiazepine group of drugs. The same is true for cocaine; samples are assayed for benzoyl ecgonine, a metabolite which appears in the urine of cocaine users.

Glenwood Life is one of the few total detoxification-oriented programs in the state. Most other programs detoxify patients from methadone when they are on probation, but do not do 100 per cent detoxification because of the difficulties such a program is confronted with.

Of those who complete the Glenwood detoxification program (including extensive and prolonged follow-up), relatively few return to street drugs. Some of those who have completed detoxification want to leave the program environment, and we are trying to set up a separate clinic location for this activity. Detoxified patients are visited at home, but such visits are limited by staff-to-patient ratio. However, this is an integral part of the follow-up.

*This article is the first in a series of articles pertaining to drug utilization which will appear in this Journal.

The program staff includes on part or full-time basis, an administrative director, a clinical director, a medical director, two physicians, three registered nurses, one licensed practical nurse, and vocational rehabilitation and other counselors. One of the medical people is a psychologist, plus, of course, the two pharmacists. Arrangements have been made with a local hospital for laboratory work and in-patient medical treatment when necessary.

We do not have any security problems with the methadone. We do all preparation on location, store the drug in a secure place, and take inventory daily and weekly. We keep a daily log of doses administered which is cross-checked with the pharmacist's record of the doses prepared. Control is very important and must always be stressed; the pharmacist is well trained for this vital function.

Pharmacists can be very helpful in this type program to help solve day-to-day problems. As an example, in the summer of 1972, there was a long hot spell in Baltimore. About 60 per cent of the members started complaining that their dosages weren't holding them. I suggested that their metabolism might have been speeded up a bit by the heat, and suggested salt tablets be dispensed with each dose. The complaints ceased almost immediately. The routine application of drug-related knowledge is most important in all phases of the detoxification

process. The replacement of street acquired drug knowledge with the facts must be a high priority of all programs. The pharmacist is well equipped to provide this information relating to drug action, reaction, and interaction. The importance of considering all drug (OTC and prescription) reactions must be stressed along with the effect of foods and chemicals.

If the provision of pharmacy service is considered a luxury which individual programs cannot generally afford, then the funding agencies need seriously consider requiring this service on a local, state, or regional level.

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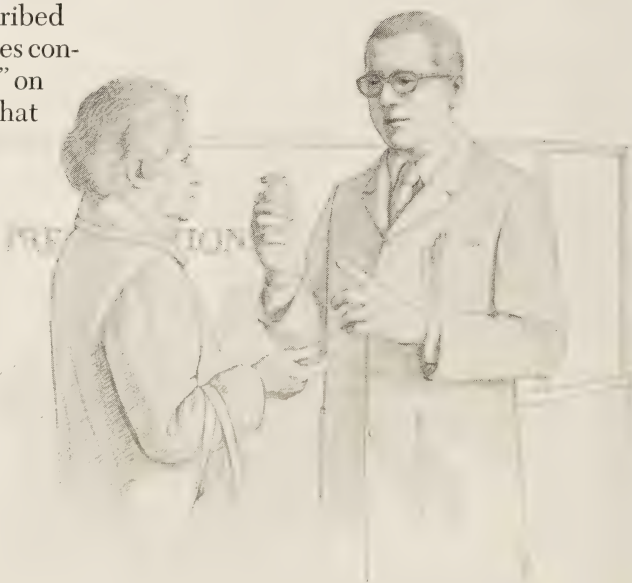
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Contraindications: In patients receiving MAO inhibitors (the latter must be discontinued two weeks prior to initiating therapy with Larodopa); in narrow angle glaucoma; and in patients with known hypersensitivity to levodopa.

Warnings: Administer cautiously to patients with severe cardiovascular or pulmonary disease, bronchial asthma, renal, hepatic or endocrine disease. Administer with care and in a facility with a coronary care unit or intensive care unit to patients with myocardial infarction who have residual atrial, nodal or ventricular arrhythmias. Be alert to possibility of upper gastrointestinal hemorrhage in patients with a history of active peptic ulcer disease. Monitor carefully all patients for development of depression with concomitant suicidal tendencies. Treat psychotic patients with caution.

Oral doses of 10 to 25 mg of pyridoxine hydrochloride (vitamin B₆) rapidly reverse the toxic and therapeutic effects of Larodopa (levodopa). Therefore, carefully consider concomitant administration of the two agents. In pregnancy, weigh potential benefits against possible hazards. Do not use in nursing mothers. Safety of Larodopa in children under age 12 not established.

Precautions: Periodic evaluations of hepatic, hematopoietic, cardiovascular and renal function recommended during extended therapy in all patients. Patients with chronic wide angle glaucoma may be treated cautiously provided intraocular pressure is well controlled and monitored carefully during therapy. To patients on an antihypertensive drug, administer carefully, adjusting dosage if necessary. For patients receiving pargyline, see note on MAO inhibitors contraindications.

Adverse Reactions: *Most serious*—occurring most frequently: adventitious movements (e.g., choreiform and/or dystonic); *most serious*—occurring less frequently: cardiac irregularities and/or palpitations, orthostatic hypotensive episodes, brady-

kinetic episodes (the "on-off" phenomena), mental changes including paranoid ideation and psychotic episodes, depression with or without the development of suicidal tendencies, dementia, and urinary retention; *most serious*—occurring rarely: gastrointestinal bleeding, development of duodenal ulcer, hypertension, phlebitis, hemolytic anemia, agranulocytosis, and convulsions. (The causal relationship between convulsions and Larodopa has not been established.)

Less serious—occurring relatively frequently: anorexia, nausea and vomiting with or without abdominal pain and distress, dry mouth, dysphagia, sialorrhea, ataxia, increased hand tremor, headache, dizziness, numbness, weakness and faintness, bruxism, confusion, insomnia, nightmares, hallucinations and delusions, agitation and anxiety, malaise, fatigue and euphoria; *less serious*—occurring less frequently: muscle twitching and blepharospasm (which may be taken as an early sign of overdose); consideration of dosage reduction may be made at this time), trismus, burning sensation of the tongue, bitter taste, diarrhea, constipation, flatulence, flushing, skin rash, increased sweating, bizarre breathing patterns, urinary incontinence, diplopia, blurred vision, dilated pupils, hot flashes, weight gain or loss, dark sweat and/or urine; *less serious*—occurring rarely: oculogyric crises, sense of stimulation, hiccups, development of edema, loss of hair, hoarseness, priapism and activation of latent Horner's syndrome.

The following have been noted: elevations of BUN, SGOT, SGPT, LDH, bilirubin, alkaline phosphatase or PBI; occasionally, reductions in WBC, hemoglobin and hematocrit; elevations of uric acid with use of colorimetric method but not with uricase; occasionally, positive Coombs test; leukopenia, requiring at least temporary discontinuance of Larodopa (levodopa).

Dosage and Administration: Because of the necessity for individualizing therapy, the usual optimal therapeutic dosage should not exceed 8 Gm, and should be carefully titrated for each individual patient. The physician should thoroughly familiarize himself with the information in the package insert before instituting therapy.

How Supplied: *Tablets*, pink, scored, containing 0.1 Gm levodopa (imprinted ROCHE 72), bottles of 100; containing 0.25 Gm levodopa (imprinted ROCHE 57) or 0.5 Gm levodopa (imprinted ROCHE 56)—bottles of 100 and 500.

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The Poison Pen

HASTENING ELIMINATION

by G. M. Oderda, Pharm.D. and

M. S. Furth, M.D., M.P.H.

Maryland Poison Information Center

University of Maryland School of Pharmacy

Hastening the elimination of ingested agents from the G.I. tract, or the blood stream, is a useful procedure in cases of poisoning. No matter how effective lavage or emesis has been, it is unlikely that all of the stomach's contents have been removed. Even if an absorbent, activated charcoal for example, has been used, it may be useful to speed the travel of the ingested agent through the G.I. tract with a cathartic. Once a toxic agent has been absorbed, mechanisms exist that aid the body's natural elimination processes. Both the biliary tract and the urinary tract are responsible for drug excretion. At this time not enough is known about biliary excretion to allow its stimulation. Manipulation of urinary pH and increasing urine flow may be useful in enhancing urinary excretion. Dialysis may also be of use in clearing the blood of toxic agents.

CATHARTICS

Both theoretical and clinical justification exists for the use of cathartics in poisoning. Most authorities agree that 1) irritant cathartics (aloes or cascara for example) should not be used in any kind of poisoning, 2) cathartics should not be used in patients with disturbed electrolyte balance and 3) the use of cathartics after ingestion of a caustic may be harmful.¹

Magnesium sulfate (Epsom salts), a saline cathartic, must be used with caution in poisoning cases. Although absorbed magnesium is excreted rapidly by normal kidneys, if renal impairment is present, magnesium may accumulate and produce toxicity.

Castor oil and other cathartic oils are normally contraindicated in poisoning as the absorption of some oil soluble poisons, e.g. chlorinated insecticides, may be enhanced. Phenols are very soluble in castor oil and the latter facilitates their removal from the G.I. tract. It is advisable that castor oil be followed by a saline cathartic when used for phenol poisoning.

Sodium sulfate (Glauber's salts) is the safest of the cathartic agents and the only saline cathartic that should generally be used in poisonings. Although hypernatremia and fluid balance problems may develop, this compound is much less toxic than magnesium sulfate. Catharsis begins about 30 minutes to one hour after administration of a solution of 30.0 grams of sodium sulfate in 250 ml of water.

URINARY EXCRETION

Urine composition is determined by a combination of ultrafiltration, active tubular secretion and tubular re-

absorption. Decreasing reabsorption is the only effective means for increasing urinary excretion. Only the unionized form of a weak acid or base is capable of crossing membranes and thus being reabsorbed. If one can increase the amount of drug in the ionized form reabsorption will be decreased and excretion increased. If one knows the dissociation constant (pK_a or pK_b) for a particular compound and the pH of the appropriate body fluid (urine in this case) the percentage ionized and unionized may be calculated by using the Henderson-Hasselbach equation

($pH = pK + \log \frac{[A^-]}{[HA]}$). For example, given a weak acid with a pK_a of 5.5 in an environment with a pH of 5.5, approximately 50% will be ionized and 50% unionized (and thus available for reabsorption). If the pH of the urine is raised to 7.5, approximately 1% will be unionized and 99% ionized. As one can see, the amount available for reabsorption has been reduced from 50% to 1% and thus excretion should be enhanced. Common examples of drugs in which manipulation of urinary pH is useful are phenobarbital and aspirin (alkalinization) and amphetamines and strychnine (acidification).

Intravenous sodium bicarbonate is the urinary alkalinizing agent of choice. A concentrated solution (0.9 meq/cc) is given as a bolus. If the urinary pH is not above 7.0 an additional bolus should be given. The alkaline pH is maintained by a constant infusion of intravenous fluids containing sodium bicarbonate. If the urine pH drops an additional bolus may be given. Potassium levels must be monitored. It has been shown that without replacement of potassium one can not maintain an alkaline urine. In addition it has been demonstrated that the replacement of potassium alone can produce an alkaline urine.

Acetazolamide (Diamox^R), a carbonic anhydrase inhibitor, effectively alkalinizes the urine. Acetazolamide slows down the reaction in the kidney that joins carbon dioxide and water to form carbonic acid. This results in the excretion of bicarbonate ion, sodium, potassium and water. Acetazolamide should be given intramuscularly for this purpose. If the urine pH falls below 7.0 the original dose may be repeated. A maximum of four doses should be given.² There is some question as to the advisability of the use of this product in young children and especially in salicylate poisoning. In *The Pharmacological Basis for Therapeutics* it is stated that "Acetazolamide should not be employed for this purpose (for the treatment of salicylate poisoning). Although salicylate excretion may be transiently increased, the presence of a car-

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bonic anhydrase inhibitor is detrimental because of the late acidosis of salicylate poisoning."³

Drinking or administering large quantities of fluid and thus producing a water diuresis may increase some clearance values, but its effect on the excretion rates is minimal in most cases. The main effect of the water diuresis is to increase volume and flow in the distal renal tubules and the collecting ducts.

Osmotic diuresis is a far more efficient means of removing a poison than water diuresis. Osmotic diuretics, such as mannitol and urea, are particularly well suited for this purpose. Either of these compounds will increase the excretion of any compound that is passively reabsorbed.

The combination of an agent that alters pH and an osmotic diuretic is a rational one in many situations. Urea and sodium lactate is such an example. An agent recently introduced into clinical medicine, THAM or tromethamine, is interesting as it produces an osmotic diuresis and urinary alkalization. This compound and carbon dioxide join to form bicarbonate and a cationic buffer. Carbon dioxide tension in the blood is lowered, and this decreases the breathing stimulus. In fact, total cessation of breathing (apnea) has been reported with its use. It is for this reason that its value in poisoning is questionable.

DIALYSIS

Dialysis is a procedure in which unwanted solutes are removed from the blood stream by allowing diffusion across a dialysis membrane into a solution. This solution, the dialysate, is changed, either continuously or intermittently, and its composition is designed in a manner that allows diffusion of unwasted solutes from the blood while not allowing necessary electrolytes and other compounds, to leave the blood stream.

Two basic types of dialysis exist; peritoneal and extracorporeal hemodialysis. In peritoneal dialysis the dialysate is instilled into and removed from the peritoneum with the peritoneal membrane serving as the dialysis membrane. Extracorporeal hemodialysis is a more complicated procedure that requires extensive special equipment and is generally only available at large referral hospitals. In this system blood is removed from the patient via a shunt, circulated through the machine, and back to the patient. While in the machine diffusion across the dialysis membrane and into the dialysate occurs. Although more complex, extracorporeal hemodialysis is far more efficient than peritoneal dialysis.

Dialysis is a somewhat heroic procedure and obviously one that is seldom required. Dialysis may be considered in a patient who has been known to have taken a potentially fatal dose of a drug that is dialyzable and in whom all conservative measures have been used and his condition continues to deteriorate. Dialysis is also potentially useful when the ingested compound is metabolized to a more noxious compound in the body. If the original compound can be removed before the metabolic changes

occur, harm to the patients may be prevented. Two examples of this are methanol (metabolized to formaldehyde) and ethylene glycol (oxalic acid is formed). Extensive lists of dialyzable drugs have been compiled and these authors recommend such a list compiled by G. E. Schreiner.⁴

Either type of dialysis is also rational in patients with poor kidney function or total anuria to remove waste products from the body.

It is important to note that all the above procedures are only adjunct to treatment and the primary measures for treatment of any poisoning is to be sure that patient has a clear airway, his cardiac function is good, and he has been treated for shock. Without these measures having been instituted, all other measures, as noted above, will be for naught.

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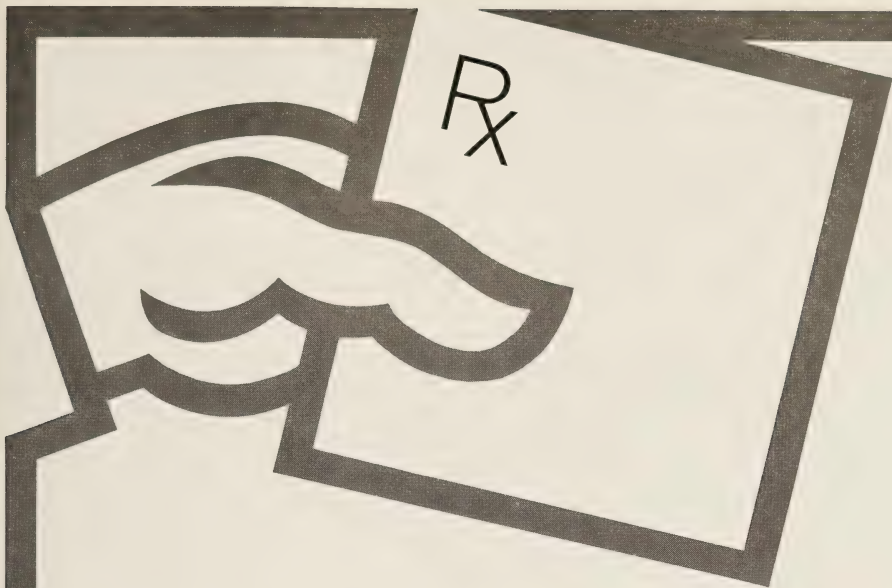
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Maryland Society of Hospital Pharmacists

Statement on Doctor of Pharmacy Program

The Doctor of Pharmacy (Pharm.D.) program of the University of Maryland School of Pharmacy is a six-year program developed to meet the growing need for clinical pharmacists in health care delivery and is designed to complement the present baccalaureate program. This proposal is the culmination of four years of planning by the faculty of the pharmacy school.

A primary function of the graduate of this program will be to perform a clinical therapeutic service. This will include providing drug information on the therapeutic use of drugs, adverse drug reactions, drug interactions, and toxicity of drugs; recommending choice of drugs; and consultant work. Students wishing to enter the doctoral program will complete the first 3½ years of the baccalaureate curriculum and then elect a special course sequence for the next semester. Candidates for admission for the doctoral program will be selected from those completing the special course sequences. Those admitted to the program will be required to complete a two-year sequence that includes multiple clinical clerkships in various areas of patient care in the University of Maryland Hospital. It is anticipated that additional institutions in the Baltimore-Washington area will be added to the program through affiliation agreements.

There has undoubtedly been much thought and work put into the development of the proposed Pharm.D. program of the University of Maryland School of Pharmacy. The School of Pharmacy has wisely recognized the emergence of the pharmacy clinician and its role in his proper education. The advent of the pharmacy clinician is a natural outgrowth of the changing philosophy in Pharmacy from product orientation to patient orientation.

It is envisioned that the Pharm. D. program will have its greatest impact on the institutional phase of pharmacy rather than on community practice. It is for this reason that the Maryland Society of Hospital Pharmacists has studied the proposal very closely and the MSHP Pharm. D. Review Committee has developed the following statement which has been approved by the MSHP membership.

The Committee is justly concerned with the placement of the Pharm.D. graduate, on his acceptance by health institutions and with the effect that the Pharm.D. program will have on the other established programs of the School of Pharmacy.

We look forward to the institution of this program and see it as the recognition of a milestone in the practice of American Pharmacy.

—Normand A. Pelissier

The Maryland Society of Hospital Pharmacists, Pharm.D. (Doctor of Pharmacy) Review Committee has met and discussed at length the proposed Pharm.D. program of the University of Maryland School of Pharmacy. These discussions have included participation by Dean Kinnard and Dr. John Young, Chairman of the School's Pharm.D. Committee, to gain a better understanding of the educational program leading to this degree and the need for practitioners holding this degree.

We recognize that the Society was founded to perform a number of important organizational functions. One of the most essential of these functions is to foster creativity of pharmacy services in the institution. The development of the pharmacy clinician seems to offer an unequalled opportunity to practice the type of pharmacy not before encountered and practice on a level that only advanced training could provide.

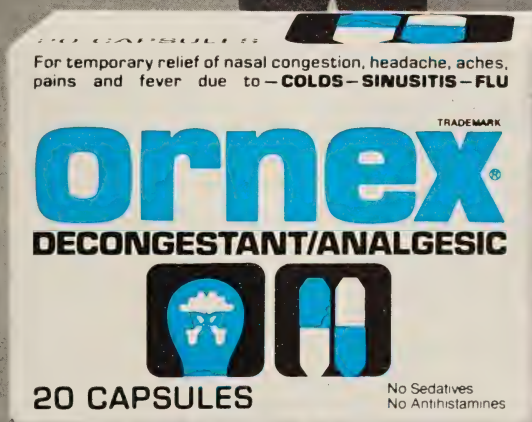
The Committee after due consideration recommends that the membership approve and the President transmit the following statement and areas of concern to the Faculty and Dean of the School of Pharmacy.

The Maryland Society of Hospital Pharmacists supports the proposed new Pharm.D. program. The Society, in its efforts to review this program, however, has certain factors which it would bring to your attention:

I. The Society is aware of the burgeoning number of Pharm.D. programs throughout the Nation and shares with the School its concern for the varying quality and lack of standardization of these programs. We applaud the school for developing a proposal which reflects an academically demanding curriculum to produce a superior practitioner.

II. The Society is aware that the American Hospital Association has urged its member hospitals to make their facilities available to colleges of pharmacy to provide a proper environment for the training of future practitioners of clinical pharmacy. We are concerned, however, about the establishment of a rational approach to placement of the new graduates from this program. Judging by national standards, new graduates would most likely

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wish to either enter a teaching career or practice in a large teaching hospital. Their services, however, would probably be more needed in the community hospitals throughout the State.

III. The Society recognizes the problem of placing graduates of the Pharm.D. program in hospital environments which will take full advantage of the talents of the clinical pharmacist. The teaching staff of the Pharm.D. program should accept the responsibility of working with Directors of pharmacy, hospital administrators, and medical practitioners to justify the need for this new form of practice.

IV. The Society strongly supports the statement in the "Proposal" which makes provision for recent B.S. graduates to return to school and complete requirements for the Pharm.D. We feel that an individual who makes the decision to return to school usually has strong motivation, added maturity and practical experience to take maximum advantage of the educational opportunity.

V. The Society is aware of efforts being made by national professional organizations to "single-out" certain specialties in pharmacy. For years, Colleges of Pharmacy have awarded a Master of Science degree in Hospital Pharmacy usually centered on departmental administration or an advance phase of Hospital Pharmacy practice.

Today, with the incorporation of so many different degrees within the same discipline and the complexity of institutional practice, we feel that the need for such an advanced degree in institutional pharmacy is more apparent than ever before.

VI. The Society is concerned with the effect that this new program might have on the current 5 year graduates. The strides made by the school to improve the existing B.S. curriculum have been impressive and we strongly applaud these accomplishments. We hope the B.S. program continues to receive the same strong support for excellence and innovation as in the past years. Recent graduates of the current program have demonstrated an enthusiasm for a "patient-oriented" practice as opposed to an "product or task" oriented practice. Our members have observed them to possess considerable knowledge to practice pharmacy on a level not previously possible before the new 5 year curriculum and the Professional Experience Program. The establishment of a Pharm.D. program could, however, have a negative impact upon the B.S. program by skimming the most talented and capable students into the Pharm.D. and leaving behind a group of students who were strongly desirous of entering this program, but were not chosen. Respectively submitted,

Vincent de Paul Burkhardt, M.S.—Chairman
Kent Johnson, M.S.
Samuel Lichter, B.S.

Approved by the membership of the Maryland Society of Hospital Pharmacists at its meeting of February 14, 1974.

Maryland Society of Hospital Pharmacists

The Maryland Society of Hospital Pharmacists held a meeting on February 14, 1974 at Mercy Hospital in Baltimore. The guest speaker was Dr. Emerson Walden, Chief of Surgery at Provident Hospital. Dr. Walden discussed "Acupuncture" and showed a film of his two week tour of the People's Republic of China which he attended with nine other physicians as part of a delegation of the National Medical Association. The films showed dramatic evidence of the effectiveness of acupuncture as a form of analgesia in surgical procedures.

Patrick Birmingham presented the Nominating Committee report.

President Elect: Harry Hamet

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Secretary: Thomas Walker, Michael Luzuriaga

Board of Directors: Irvin Myers, Arthur Riley, Kent Johnson (one Director to be elected)

A seminar on "I.V. Therapy and Hyperalimentation" was scheduled for March 22 and 23 at the Friendship International Motel.

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Together we can be a strong wind blowing across the sea we must travel. As single self-serving individuals, we will be nothing more than an occasional breeze, if even that. Ask an officer or member of this Association about joining today! Give us the team that can win!

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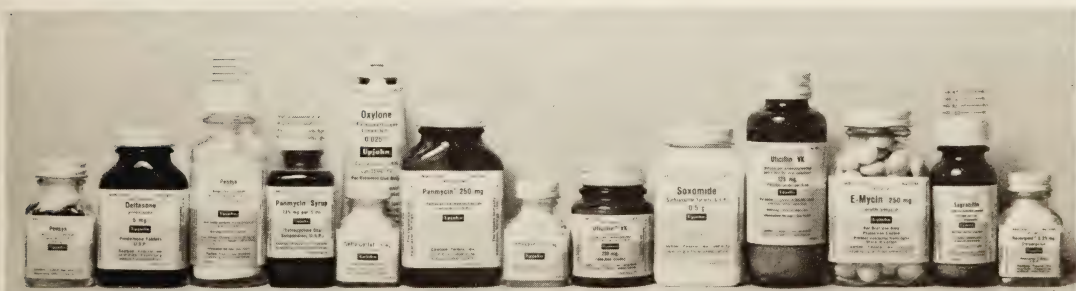
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Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of February:

New Pharmacies

Levay Prescription Shoppe, Jack W. Miller, President; 4000 Annapolis Road, Baltimore, Maryland 21227.

Prescription Center—Clinton, Harry M. Rayman, President; 9131 Piscataway Road, Clinton, Maryland 20735.

Potomac Valley Pharmacy, Inc., Robert J. Martin, President; 2047 Bedford Road, Cumberland, Maryland 21502.

Medical Park Pharmacy, Benjamin S. Rubin, 10301 Georgia Avenue, Silver Spring, Maryland 20910.

Changes of Ownership, Address

Ingleside Pharmacy, Roger P. Potyk, President (Change of ownership); 315 Ingleside Avenue, Baltimore, Maryland 21228.

Stoney Creek Pharmacy, Sanford L. Rosenbloom, President (Change of ownership); 8039 Fort Smallwood Road, Baltimore, Maryland 21226.

Parker's Drug Center, Richard D. Parker, Sr., President (Change of ownership and pharmacy name. Was Peoples Service Drug Store, Inc. No. 22); 102 North Market Street, Frederick, Maryland 21701.

No Longer Operating As Pharmacies

GEM Pharmacy, Willard A. Small, President; 3130 Branch Avenue, Suitland, Maryland 20031.

Maryland Department of Health and Mental Hygiene Division of Drug Control

Pharmacists are advised to contact the below listed practitioners to verify all prescriptions for controlled dangerous substances or other drugs of abuse before dispensing:

Leon R. Levitsky, M.D.
3408 Rhode Island Avenue
Mount Rainier, Maryland 20822
Telephone WA 7-0100

Stanley D. Madison, M.D.
Penn-Dol Medical Center
Telephone 669-5100 or EA 7-0515
(Green colored prescription blanks)

Eugene S. Bereston, M.D.
M. Eugene Tudino, M.D.
22 East Eager Street PL 2-6330
Reisterstown Road HU 4-1722
Parkville Medical Center NO 8-1188

Peter Kenmore, M.D.
Hyattsville area
Blue V.A. form

Questions regarding this physician should be directed to Michael Stadick, V.A. Hospital, Washington, D.C. 483-6666 Ext. 6881.

AC 2337048 is an invalid DEA (formerly BNDD) number

C. H. Tregoe, Chief
Division of Drug Control and Product Safety

TAMPA News

The Annual Goodwill Meeting of the Traveler's Auxiliary of the Maryland Pharmaceutical Association was held at the Suburban House Restaurant in Pikesville. The meeting was opened by President Abe Bloom with a prayer and pledge to the flag. Because of the interesting program planned, regular reports were dispensed with in order to devote more time to the presentation.

John Hamilton and Wayne Edwards, TAMPA members with the Sandoz Co., arranged for the program "You and Your Heart" in preparation for "Heart Month" in February. The program which included a film presentation, a practical demonstration of CPR (cardio-pulmonary resuscitation) and a question and answer session was thoroughly enjoyed by all. The dramatic presentation reinforced the message that heart disease is the leading cause of death and disability in the United States with 4,107 deaths from heart disease recorded in Baltimore City alone last year.

To avoid heart attack, it was recommended to everyone to reduce the amount of saturated fat and cholesterol in the diet, avoid excess weight, control high blood pressure, give up or don't start smoking, exercise regularly and have regular medical check-ups.

Among guests in attendance at the meeting were Nathan I. Gruz, Executive Director of the Maryland Pharmaceutical Association and Melvin N. Rubin, President of the Baltimore Metropolitan Pharmaceutical Association.

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U.S.P. Drug Defect Reporting Program

The following are some examples of action brought about by pharmacists through the U.S.P. Drug Defect Reporting Program. No reflection on any particular manufacturer, distributor, pharmacist or product is intended or should be inferred from these case studies.

CASE STUDIES

A. Correction Noted

A New Jersey community pharmacist submitted the following letter:

I just wish to give you this feedback concerning a defect which our pharmacy noted and you referred to the manufacturer. Today I received a call from the Quality Control Director of (X company) concerning the report of a defective screw cap closure on (product Y). He reported to me that the problem was due to a new capping machine which they had installed, and because of ours and several other reports they had begun using a new cap which will take an additional screw track, and will therefore be harder to strip.

I feel very proud that this is the second defect which we reported which resulted in corrective action being taken by the manufacturer, the other being a coating machine defect from (company Z).

B. Surgical Sponges Recalled

A Missouri hospital pharmacist reported receiving sterile sponges with unsealed outer packages. Upon receipt of this report the firm initiated a recall and instituted a redesign of the package to overcome the problem.

C. Recall of Sodium Chloride Injection

This report concerns sodium chloride injection. A Massachusetts hospital pharmacist reported that an ampul had been used in an IPPB machine and the odor had caused the patient to complain and gag. Investigation by both the firm and FDA disclosed that some of the ampuls had become contaminated with traces of paraldehyde which had been run through the same filling equipment just prior to its use for the sodium chloride. As a result of receiving this report, the firm promptly withdrew all stock from the market.

D. Error in Strength Declaration Results in Recall

An alert Chicago hospital pharmacist noted that a lot of an injectable oxytocic drug bore, in addition to the correct potency on the label, and on the main panel of the drug, a strength declaration on the end flap which was considerably less. Although there was little likelihood that any pharmacist would assume that the dose on the flap was correct, the firm withdrew all stock with the misprint on the boxes.

E. Contaminated Aluminum Hydroxide Gel Recalled

This report concerns Aluminum Hydroxide Gel in unit dose packages. Two North Carolina pharmacists reported that their hospital laboratory found both bacterial contamination and mold in the product. As a result of this report, the firm recalled all outstanding stocks. It is of interest that the company decided on the recall on the basis of the hospital's assay, even before the firm had completed its own check analysis.

F. Different Antibiotics with Same Brand Name

A hospital pharmacist in Texas reported that he discovered that the same brand name was being used by 2 different firms; by one for Tetracycline Capsules, 250 mg. and the other for Chloramphenicol Capsules, 250 mg. Investigation disclosed that the Chloramphenicol had never been marketed, although it had been listed in reference books; the other had not been nationally advertised, but was available and promoted in a local area. The Tetracycline was recalled and was being renamed, which will end the possibility of a pharmacist consulting a reference text and being misled into dispensing Chloramphenicol rather than Tetracycline.

G. Miscellaneous

1. A nurse reported on the ambiguous instructions relating to the dosage of an injectable drug contained in an insect sting first aid kit. As a result, the manufacturer plans to alter the insert instructions in order to provide more lucid and accurate information on the use of the drug.

2. Because of a California hospital pharmacist's reports concerning the lack of an expiration date on several different sterile unit dose ophthalmic solutions, one manufacturer has initiated stability studies to determine the shelf life of the products in question in order to confirm whether or not dating requirements are in fact necessary.

3. Through the system we often receive reports which are not strictly "drug" reports but nevertheless are of interest. For example, reports on the adequacy of several of the child proof safety closures are being investigated, as the result of comments from pharmacists. One vitamin dietary supplement has been reported as being unsatisfactory, and this too is currently under investigation. Other reports have led to evaluation of the quality of containers used by laymen as pocket or purse containers for drug products. From this came an article directed to the public which appeared in the July/August



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1972 issue of the "FDA Consumer" suggesting that patients not use cosmetic type "pill boxes" and recommending that the patient ask his pharmacist or physician for guidance as to appropriate containers to carry in his pocket or purse.

4. A New York pharmacist wrote in questioning the designation "store in a cool place" on some 55 different marketed drug products in view of the new compendial requirements defining "cool place." Copies of his letter were forwarded to the 23 manufacturers of the products. In many instances the firms replied that labeling was currently undergoing revision to adequately define proper storage conditions for their product and also provided the reporting pharmacist with proper storage information. The FDA has also indicated they will be paying greater attention to labeled storage conditions in their activities.

5. Labeling discrepancies are among the problems most often noted by pharmacists. For example, we have received several reports about these problems:

- a. An Arkansas hospital pharmacist reported receiving a powder for Injection with a package label directing that the contents be used *within* one hour after reconstitution. The package insert directed that the drug be infused slowly over 2 or 3 hours. The manufacturer wrote to the pharmacist indicating that the labels will be revised to indicate that the solution should be prepared not longer than one hour *before* using the preparation.
- b. The vial label of an antibiotic stated one dose while the carton labeling recommended twice that amount.
- c. Phenobarbital Tablets with the narcotic schedule classification III instead of IV, as required, on the label.
- d. After receiving a report from a Wisconsin pharmacist a manufacturer concurred with his opinion that the bottle label for their phenothiazine preparation should direct that it be dispensed in light resistant containers and were seeking to make this change in their New Drug Application.

CASE STUDIES

A. Non-Approved Use

Several alert hospital pharmacists have reported that Lidocaine Hydrochloride 4% is being marketed as a product designed and labeled with instructions for instillation in intravenous solutions. Upon investigation, it was discovered that a New Drug Application had not been approved for intravenous use by the Food and Drug Administration. As a result one company is recalling all lots of the drug packaged and labeled for this particular route of administration.

B. Inoperative Intravenous Infusion Sets

An Alabama hospital pharmacist reported that metered intravenous infusion sets with 100 ml. fluid bags had units which were defective. The infusion could flow through the tubing into the bag, but would not flow out into the drip chamber below. Investigation disclosed that the maker had gone out of business, and the inventory had been acquired by another firm. The new firm was aware of the problem and had done a 100% inspection of all stock they acquired. They are also planning to redesign the product before manufacturing new units.

C. Leaking Capsules

A number of hospital and community pharmacists reports have called attention to leaking and/or oozing Chloral Hydrate Capsules. A check at the firm indicated that this was caused by exposure to heat—resulting in oozing. The firm is currently testing different thicknesses of capsules to determine which wall thickness will meet all requirements and still be more resistant to heat exposure.

D. Labeling of Composition of Vitamin Preparation Incomplete

Several California Hospital Pharmacists have noted that a firm's label for a U. S. P. vitamin preparation failed to declare one of the required vitamins. The firm assured the pharmacist the "missing" vitamin was "in" but somehow it was omitted from the label. A subsequent check by FDA determined that the omission of the vitamin from the label was a clerical error which had not been caught. The firm recalled and relabeled the batches involved.

E. Labeling of Strength Revised for Clarity

At the suggestion of a California nurse, one manufacturer altered the labeling of an injectable product to include, in addition to the percentage strength, the total number of grams and the milliequivalency of the active ingredient in the preparation—thus making it more convenient for calculating purposes.

F. Labeling Rubs Off

As the result of reports received from a hospital pharmacist, concerning the difficulty in reading white labeling over a clear liquid, as well as lettering rubbing off during ordinary handling, the firm involved purchased new dye and will reprint all remaining stock to be sure that the printing is legible, and not easily removed.

G. Inconsistencies in Storage Requirements for Oxytocin Injection

Inconsistencies regarding packaging and storage requirements for Oxytocin Injection among various manufacturers caused a pharmacist from Arizona to write to the U. S. P. about this problem. His inquiry was submitted to the USP Committee of Revision where it is

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resulting in a re-evaluation by the appropriate committee members. In all probability a supplement to USP XVIII or the new USP XIX will contain a revised labeling and storage statement for Oxytocin Injection.

H. Potential Error Due to Location of the Lot Number

A pharmacist from Ohio noted that a particular size of an ointment base contained the lot number on the lid. As he pointed out, lids are removable and are sometimes interchanged, particularly where extensive bulk compounding is carried out. The resulting situation could lead to potential error when attempting to identify the true lot number of the base used in preparing ointments. The company complimented the pharmacist on his observation and stated that future containers would contain the lot number on the bottom of the container, thus eliminating the potential for error.

I. Contaminated Enema Results in Recall

This recall involved a ready-to-use enema preparation. The pharmacist reported that a yeast-like contamination was observed. Upon analysis, the contamination was confirmed. The firm promptly recalled the lot number in question of the particular product.

J. Nitroglycerin Packaging Oversight

Another problem concerned the new packaging and dispensing requirements for nitroglycerin preparations. Several pharmacists reported that while the product is to be dispensed in the original, unopened container, the package insert was placed inside the sealed container of the nitroglycerin products manufactured by several different firms. This presented the dilemma for the pharmacist as to whether to open the container to remove the insert, thus disregarding the requirement which protects the stability of the drug, or to heed the requirement, thus providing the patient with the package insert containing information which they believed might unduly alarm him. The firms involved revised their packaging procedures so that the insert is now attached to the outside of the container.

K. Firm Discontinued Unsatisfactory Sodium Bicarbonate Injection

A Missouri Hospital Pharmacist reported particulate matter formation in Sodium Bicarbonate Injection. As a result of his report, and those received from other pharmacists, the firm discovered that the preparation was developing a precipitate on standing. Consequently, they informed the pharmacist that they are discontinuing the injection until they develop a method of preparing it so that it will remain stable for a reasonable period of time.

L. Miscellaneous

One very important by-product of the Drug Product Defect Reporting Program has been the positive action

that many firms have initiated as a result of receiving the reports. Some examples are the following:

1. A pharmacist suggested that expiration dating be placed on unit-dose containers of antibiotics in addition to the shelf carton. The company considered the request and informed the pharmacist that expiration dating will be placed on the blister-packed antibiotics.
2. A nurse reported having difficulties in reconstituting a preparation. On several occasions the rubber stopper was pushed out from under the metal crimp and into the vial. Based upon this report and others the firm reported that a new machine which will alleviate this problem, is being designed.
3. Another situation involved a nurse who, along with several others, suggested a prefilled unit-dose syringe be calibrated so that smaller doses could be given. The firm considered these suggestions and reported that future productions of their entire line of syringed products will be calibrated.

Obituaries . . .

Isadore A Goldstein

Isadore A. Goldstein, 74, a former hospital pharmacist who earlier had operated the Greenmount Pharmacy for 24 years, died on February 7. He graduated from the University of Maryland School of Pharmacy in 1926.

Joseph H. Edelstein

Joseph H. Edelstein, 64, a 1930 graduate of the University of Maryland School of Pharmacy, died on February 11.

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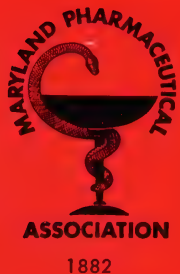


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the maryland pharmacist

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By Deborah M. Roffman, Carl E. Speckman
and Nathan I. Gruz

Early Pharmacy In The Baltimore Campus Area

By B. F. Allen, Ph.D.

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The Maryland Pharmacist



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Editorial . . .

NOTHING TO HIDE

The full disclosure movement that is sweeping through all levels of political government will eventually have its effect on the country's private enterprise sector as well.

Already both the U.S. House and Senate have passed versions of a bill which would create a powerful federally funded consumer agency to act as a kind of ombudsman for the consumer.

Executives are being asked to declare to their superiors information on their financial holdings and possible conflict of interest situations.

Investigators representing public agencies are conducting cost containment surveys in hospitals, nursing homes and other areas where the state or federal government is spending money as a third-party payer.

In one such survey conducted recently in a local hospital, the investigator questioned the pharmacist about his pricing policies. Why was he dispensing medication to physicians at a lower price than he was charging hospital employees or outpatients for the same items? How could the pharmacist show proof that all employees of the pharmacy drawing a salary for that day were in effect present? These are examples of the types of questions that were asked.

With the establishment of PSRO (Professional Service Review Organization) and with National Health Insurance on the horizon is it not possible that cost containment might be sought in all areas of health care including the community pharmacy? When someone visits your pharmacy and asks you these questions will you be at a loss to provide answers on your pharmacy's policies? Or will you be able to say "Fire away, I have nothing to hide."

—Normand A. Pelissier

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JUNE 23-27

See Program Outline on Back Page

Vital decisions affecting your professional future will be made at the forthcoming 92nd Annual Meeting and Convention of the Maryland Pharmaceutical Association, June 23-27 at Downingtown Inn in Pennsylvania. Convention Chairman Paul Freiman has planned an outstanding business and recreational program for members, their families and friends. Assisting in the festivities will be the Ladies and Travelers Auxiliaries (LAMPA and TAMPA) under Presidents Arlene Padusis and Abrian Bloom.

S. Ben. Friedman, Speaker of the House of Delegates, has provided for ample time for discussion of the important issues confronting pharmacy in Maryland.

A great deal of time and effort on the part of officers, Board of Trustees, committees and staff go into the planning and preparation of the MPhA Annual Meeting. TAMPA and LAMPA work hard on the entertainment and recreation features. TAMPA is assisting in every way possible, particularly by manning the registration desk and putting on the "Night at the Races."

All members are urged to attend *their* Annual Meeting and Convention. This is the opportunity to learn and to participate in making decisions about the critical issues in pharmacy.

Every effort will be made to concentrate on what is truly important and to leave the trivia behind. If we keep our eyes on meaningful problems and approach them with a sincere desire to seek solutions in a constructive manner, we will have the best convention ever.

So come . . . participate, learn and enjoy at Downingtown — June 23-27.

PHARMACY CALENDAR

June 23-27—92nd Annual Convention, Maryland Pharmaceutical Association, Downingtown Inn, Downingtown, Pa.

June 28-30—Ninth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Williamsburg, Virginia.

July 14-18—National Convention, Alpha Zeta Omega Pharmaceutical Fraternity, International Hotel, Freeport, Bahamas.

August 3-9—American Pharmaceutical Association Annual Meeting, Chicago.

September 29-October 4—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas.

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January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

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Maryland Pharmacists Ready for Family Planning Initiative

By Deborah M. Roffman, Carl E. Speckman
and Nathan I. Gruz

Nonprescription methods of contraception have not been made obsolete by the superior contraceptive technology represented by the pill and the IUD. Experience has shown that neither of these is universally usable; each has its hazards and limitations. Despite their lower effectiveness in providing protection against unwanted pregnancy,¹ the condom, foam and spermicidal jellies and creams have a decided place in the contraceptive armamentarium. They are all safe, no health hazards having ever been associated with their use and, when utilized in combination, they provide a significant level of protection against unwanted pregnancy.² Alone among all the methods, the condom enables the male to assume responsibility for contraception and provides prophylaxis against venereal disease, not a trivial consideration in view of the high incidence of VD in the United States. The Center for Disease Control estimates that the incidence of gonorrhea increased by 63.8 percent between 1969 and 1973 and infectious syphilis increased by 34.2 percent in that period.³ The nonprescription methods actually may be more suitable than the pill and IUD for women whose exposure to coitus is sporadic or infrequent—especially the estimated 2.4 million women under 20 who are engaging in premarital sex and for whom contraceptive protection is urgent.⁴ Over-the-counter contraceptives also have the advantage of

being readily accessible, since they are sold in virtually all pharmacies. Recognition of the role over-the-counter contraceptives can play has stimulated interest in pharmacists' attitudes toward contraception and in their practices concerning the sale and display of nonprescription contraceptives. Studies of these attitudes made in five states⁵ between 1969 and 1971 demonstrate that virtually all pharmacists approve of the sale of contraceptives to married persons, while a substantial majority approve their sale to unmarried minors.⁵ These studies also show that pharmacists are much more reserved about displaying contraceptives than they are about their sale and that a double standard concerning display prevails. Fewer than five percent of pharmacists surveyed said they displayed condoms, compared with from more than half to three-quarters who displayed the female methods.

Concern about the neglect of a potentially important community education resource and ally in family planning—one who is perhaps the most readily accessible of all health professionals—stimulated a cooperative effort by the Planned Parenthood Association of Maryland and the Maryland Pharmaceutical Association to learn more about the attitudes of Maryland pharmacists toward the sale and display of contraceptives as well as to determine what role they believe their profession can play in family planning. A statewide mail survey, fielded between February and May 1973, shows that: Maryland's pharmacists agree with those in other states about the desirability of contraception; virtually all pharmacies sell contraceptives; and almost all approve their sale to married persons. Support of sales to minors, however, is significantly

greater in Maryland than in the other states, paralleling the growing support by the general population of provision of family planning services to sexually active unwed minors⁶ as well as greater tolerance of premarital sex.⁷

Methodology

In February 1973 a 20-item questionnaire, along with a covering letter (signed by both of the study's sponsors) explaining the purposes of the study, was mailed to each of the 710 community pharmacies in Maryland.[†] The letter specified that the questionnaire be completed by a pharmacist and preferably by the principal pharmacist. A total of 287 questionnaires was returned by May 10, 1973, yielding a return rate of 40 percent. Eight were excluded from the data analysis, three because they were returned after the cutoff date, the remaining five because they had been mailed to noncommunity-type (institutional) pharmacies and were returned incomplete. Questionnaires were returned from pharmacies located in all but one of Maryland's 24 political subdivisions. Thirty-seven percent of the pharmacies were members of drug chains and 62 percent were independently owned, a breakdown closely approximating the two-to-one statewide ratio of independent versus chain outlets. Residential areas surrounded 69 percent of the pharmacies, while 14 percent were located in commercial

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⁵The five states are Hawaii, Pennsylvania, Tennessee, Washington and Utah (the sample in Utah was restricted to Salt Lake City).

[†]The target of the mail surveys in the other states was individual pharmacists, while the Maryland survey was directed to pharmacies in order to yield a picture of activities and policies related to family planning in pharmacies across the state.

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Table 1. Personal characteristics of Maryland pharmacists who responded to a mail survey between February and May 1973 (N=279)

Characteristic	No.	%
Sex		
Total	227*	100.0
Male	217	95.6
Female	10	4.4
Marital status		
Total	229*	100.0
Married	205	89.5
Single	21	9.2
Divorced/widowed	3	1.3
Religion		
Total	217*	100.0
Jewish	98	45.2
Protestant	61	28.1
Catholic	45	20.7
Greek Orthodox	3	1.4
No affiliation	10	4.6
Position in pharmacy		
Total	276*	100.0
Owner	147	53.3
Manager	49	17.8
Assistant manager	31	11.2
Employee (pharmacist)	49	17.8

*Does not total 279 because respondents did not reply to every question

Note: Percentages may not add to 100 because of rounding

districts and 13 percent were in combined residential-commercial areas. Half of the pharmacies were in suburban locales. 33 percent in urban and 10 percent in rural areas.

The respondents answered the questions selectively, so that in many instances fewer than the total number of respondents replied to given questions. In the analysis which follows, the number of respondents to each question is given and all percentages are based on these numbers.

Background of the Pharmacists

As Table 1 shows, pharmacists in Maryland, as elsewhere, are predominantly men and married. Very few are women or single. In Maryland, almost half of those who replied to the question on religious affiliation said they were Jewish, while more than one out of four were Protestant and just over one out of five were Roman Catholic.

*Provision of contraception to minors is legal in Maryland [see Center for Family Planning Program Development, *Contraception, Family Planning and Voluntary Sterilization: Laws and Policies of the United States, Each State and Jurisdiction*, U.S. Government Printing Office, Washington, D.C. (in press), p. 207.]

The mean age of respondents was 41 years, with a range of from 23 to 69.

Most of the respondents were in policy- or decision-making positions within their pharmacies: 53 percent were owners, 18 percent were store managers and 11 percent were assistant managers. Only 18 percent were employee pharmacists.

Attitudes Toward Contraceptive Sale

The sale of both over-the-counter and prescription contraceptives was found to be nearly universal, with only one respondent (of the 279 who answered this question), a Catholic, saying he did not stock any. (Forty-four of the 45 Catholic respondents did sell contraceptives.)

Approval of the sale of contraceptives to married persons was also universal, with 99 percent who responded to the question saying they "think contraceptives should be sold to married persons" under and over 18 years of age, as Table 2 shows. Only three of 273 respondents disapproved sale to married people under 18, while only one of 272 respondents thought they should not be sold to married persons aged 18 or older.

Maryland pharmacists also appear to be accepting of sales to unmarried persons, with 97 percent of those responding to this question believing that contraceptives should be sold to unmarried persons 18 years of age or older. There is widespread approval, as Table 2 shows, of the sale of contraceptives to unmarried minors, with almost identical percentages approving of sale to male and female minors. The data show only slightly less approval of the sale of contraceptives to this group than of sale to unmarried adults and married persons.

Maryland's pharmacists appear to be more liberal with regard to these ques-

tions than their fellow professionals from other states surveyed in earlier years. Even when a somewhat inflated denominator is used to calculate the approval rate for sale of contraceptives to married people (see footnote **, Table 3), the Maryland pharmacists overwhelmingly endorsed sale to this category of customer, showing somewhat greater approval than pharmacists in Hawaii and Tennessee. A significantly higher percentage in Maryland also approved the sale of contraceptives to unmarried persons 18 years of age or over than in Tennessee and Hawaii (96 percent, compared with 87 percent and 84 percent, respectively). Concerning sales to unmarried minors, Maryland pharmacists were significantly more accepting, with 91 percent approving sale to this category, compared with a range of from 67 percent in Hawaii to 75 percent in Pennsylvania, see Table 3.

The reasons given for approval or disapproval of sales to unmarried minors are instructive. Of the 257 pharmacists who said they approved, 98 percent gave as their reason the prevention of illegitimacy, while 97 percent sought to prevent VD. Two out of three said they approved so that individuals could have the "freedom . . . to plan their families." Almost three out of five were concerned about population growth. Of the 25 who disapproved such sale, 13 did so out of conviction that "access to contraception leads to promiscuity," nine because they believe "unmarried persons should not engage in sexual intercourse," nine because they were "afraid [they] would be accused of contributing to the delinquency of a minor," and eight because it was against their religious convictions. Only three believed such sale to minors to be illegal in their state.* (These figures are not additive. Respondents could check more than one reason.)

Table 2. Number and percent of respondents who think contraceptives should, should not (or are undecided) be sold to married and unmarried customers, by age and sex of customer

Contraceptive sale	Married customers				Unmarried customers					
	<18		≥18		Male <18		Female <18		All ≥18	
	(N=273)*		(N=272)*		(N=275)*		(N=274)*		(N=275)*	
	No.	%	No.	%	No.	%	No.	%	No.	%
Should	270	98.9	271	99.6	257	93.4	254	92.7	267	97.1
Should not	3	1.1	1	0.4	15	5.5	17	6.2	7	2.5
Undecided	0	0.0	0	0.0	3	1.1	3	1.1	1	0.4

*Total is the number of respondents who replied to this question.

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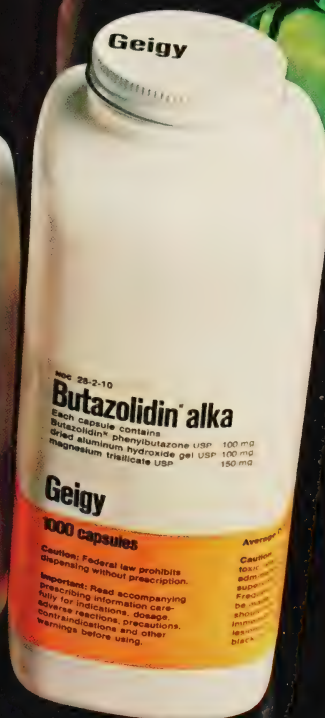


Table 3. Percent of respondents in five states approving sale of contraceptives to different groups of customers

State	Percent approving contraceptive sale to:				
	Married adults	Married minors	Unmarried adults	Unmarried minors	
				Male	Female
Washington* (N=850)	98	98	§	66	66
Tennessee† (N=805)	93	§	87	75	68
Hawaii‡ (N=92)	94	§	84	69	65
Pennsylvania* (N=780)	97	§	§	75	75
Maryland† (N=279**)	97	97	96	92	91

*No breakdown given on male and female minors; age of majority not designated.

†Age of majority designated at 18

‡Age of majority designated at 20.

§Comparable figures not available.

**Since very small numbers in Maryland failed to answer these questions, to make the figures comparable to those from the other states, we have used the total number of respondents to the survey as the base instead of the number of respondents to the specific question. This reduces the approval rate for sale of contraceptives to married adults by two percentage points and for all the rest by one percentage point.

Display of Contraceptives

Maryland pharmacists indicated a greater willingness to display both male and female contraceptives than pharmacists surveyed in other states, as Table 4 shows. Condoms were displayed in 32 percent of the 279 establishments surveyed, while display of over-the-counter female products was a practice in 82 percent of 278 pharmacies (there was no response to this question from one establishment). In this regard, a double standard prevails. While the female methods were somewhat more frequently displayed in Maryland than in the other states, the practice of displaying the condom was many times more common than elsewhere.

The 189 respondents who said that condom display was not a practice in their pharmacy were asked the reason or reasons for this policy. The most frequently specified reasons were:

- the belief that display was in poor taste, 45 percent;
- fear of negative community response, 35 percent;
- fear of theft, 12 percent;
- restrictive company policy, seven percent.

Ten percent said they had never thought about displaying this product, and six percent said they had not had access to a drug company display. All the respondents had an accurate understanding of Maryland law regarding the display of contraceptives, since none believed it to be illegal. (This was not

always the case in other states surveyed: In Hawaii, 25 percent of respondents believed it illegal to display contraceptives although it is legal—and was legal at time of survey.)

In an attempt to determine whether pharmacists' fears about negative community response and theft related to open display of condoms are justified, the question was asked if the pharmacists had at some time in the past displayed condoms but had discontinued this practice. Only 19 respondents indicated that this had been the case in their pharmacy and, of this group, theft or comments from customers were

Table 4. Percent of respondents in four states displaying over-the-counter contraceptives

State*	Percent displaying	
	Condoms	Foams, creams and/or jellies
Washington† (N=850)	4	78
Hawaii (N=92)	1	58
Pennsylvania† (N=780)	7	56
Maryland (N=279)	32	82

*Tennessee and Utah both have legislation forbidding display of contraceptives; therefore, they are not included.

†The base of the original percents given in the reports of the Washington and Pennsylvania surveys was the number of respondents indicating display of any type of contraceptives. These figures have been reworked by the author in order to change the base to the total number of respondents in the sample.



cited as reasons for removal in 10 instances. Thus, of the 109 respondents who had experimented with condom display, 83 percent had continued this practice; only nine percent found it necessary to discontinue display as a result of theft or negative community response. A large majority of the 90 respondents who continued to display condoms experienced quite different results: 78 percent of this group reported a noticeable increase in condom sales, 35 percent on the average, a fact reflecting both positive community response and financial gain.

In a sizable majority (81 percent of the 90 pharmacies where condoms were displayed) a self-service, ready-made display obtained from a condom manufacturer was utilized. Twenty-two percent of the 189 pharmacists who did not display condoms said that they would utilize this type of display if one were made available to them; an additional eight percent were undecided. These findings suggest that the efforts of condom manufacturers to encourage open display of their products by providing pharmacists with a ready-made vehicle for doing so, have achieved a measure of success.

As noted previously, over-the-counter female contraceptive products were displayed in eight out of 10 of the pharmacies surveyed. (Poor taste, space limitations and fear of theft were among the main reasons given by 50 percent of pharmacies where these products were not displayed.) In 93 percent of the 230

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Female contraceptives are placed, confusingly, alongside feminine hygiene products.

pharmacies where display of female contraceptives was the practice, responses indicated that female contraceptives were placed on shelves alongside (and in some cases mixed in with) other feminine products such as hygiene sprays, suppositories and douches.* Fewer than one-half of one percent displayed female contraceptives in an area marked "contraceptives" or given a similar discrete designation, and in four percent they were displayed along with the condom.

Pharmacist: Educator, Referral Source

The extent to which Maryland pharmacies function as sources of referral and information to their patrons regarding contraceptive devices and services was also explored. In reply to the question, "Are you asked for information or professional advice on the various types of contraceptives by males, by females?" 63 percent of 276 respondents said they were asked questions by men, and a slightly lower proportion, 57 percent, by women. Among those respondents who estimated the frequency, the average was only seven questions a month from male patrons, and six a month from female customers. This limited role is similar to

that described in some of the other studies.

In this connection, of 275 respondents to a question concerning the frequency with which customers asked about abortion, 181 (67 percent) said they were never asked and 80 (30 percent) said they received inquiries "a few times a year."

Referral for services is also infrequent. When asked to specify the number of referrals per month made to private physicians for contraceptive services, only 32 percent of the sample indicated that they *ever* made such referrals; an even smaller proportion ever made referrals to public health or Planned Parenthood clinics, 11 percent and 10 percent, respectively. On the average, only five referrals were made to private physicians, and three each to public health clinics and Planned Parenthood centers by those pharmacists who indicated that they ever made any referrals to these groups. It is not surprising, then, that 63 percent of the 261 respondents who answered the question replied affirmatively when asked if they needed more information about available contraceptive services.

It is apparent that the Maryland pharmacists surveyed, while expressing liberal attitudes concerning the sale of contraceptives, were only minimally involved in providing their patrons with information regarding available family planning methods and services. This was the pattern in all the states surveyed. One explanation of the reluctance of pharmacists to serve as educators of their

customers may be insecurity concerning their knowledge of contraception. Asked whether they are "adequately informed" about the latest developments regarding the various fertility control methods, almost three-fourths of the 278 respondents to this question said they were not adequately informed about the IUD, almost 60 percent felt a lack in their knowledge of female sterilization, while 44 percent regarded their knowledge of vasectomy as inadequate and almost half said their knowledge of abortion was inadequate. Large numbers apparently felt well-informed about the oral contraceptive and over-the-counter methods, since only nine percent felt insecure about their knowledge of the former and 17 percent about the latter.

Interested in Involvement

Although now involved only minimally in the family planning field in Maryland, as pharmacists elsewhere, the respondents indicated an interest in greater involvement. Some 91 percent (of 261 replying) answered affirmatively when asked if they thought that the profession has a role to play in "helping to alleviate individual and societal problems related to excess fertility," such as unwanted and teenage pregnancies, out-of-wedlock births and overpopulation. Only four percent said they believe the pharmacist should not become active in family planning and only 14 percent said their activity should be restricted to sale of products only. Seventy-six percent, on the other hand, said pharmacists could provide educational materials to their patrons, while 65 percent said that members of the profession could assume responsibility for providing information about costs and the relative effectiveness of the various methods. Substantially fewer—about half—thought it appropriate for pharmacists to instruct in the use of the various contraceptives or to provide advice concerning the physical and psychological advantages and disadvantages of the various contraceptives. (These percentages are not additive since respondents could check more than one item.) Passive though they are at present, about two-thirds of the respondents favor continuing education in contraception through professional literature, and almost 30 percent requested that discussions about related subjects be presented at pharmaceutical meetings.

*The potential hazards of this practice are great, given the sometimes poor or confusing labeling of these items and the confusion about the differences between hygiene and contraceptive products. It is considered better practice to display contraceptives separately from the other products, possibly alongside male contraceptives and with a clear designation of their purpose.

Nearly half of the pharmacists surveyed requested literature and other material for display, and more than half expressed a need for referral lists of family planning clinics. Thirty-eight percent of the respondents felt that educational materials for nonpharmacist personnel would also be helpful since in nearly 50 percent of the pharmacies at least one-quarter of the sales of over-the-counter contraceptive products are transacted by nonprofessional personnel. About one-third of the respondents indicated that they need ongoing assistance in the form of mass media support, more cooperation with public health officials and closer affiliation with local family planning agencies to assist them in broadening their activities.

Discussion

The results of this survey of the involvement of Maryland pharmacists in family planning activities in general confirm earlier findings depicting the pharmacist as a "passive" dispenser of birth control methods and information. However, the findings also reflect a liberalizing trend in pharmacists' attitudes regarding not only the sale of contraceptive devices, but the display of these items as well. This trend may be related to the passage of time, since the initial surveys were made between 1969 and 1971. As noted, liberalization in attitudes everywhere has been steady in the past decade. Apparently, the pharmacist's minimal involvement to date in efforts aimed at making family planning information and services more accessible to the public results neither from negative nor apathetic attitudes toward this aspect of individual and family health care, nor from an unwillingness to participate more broadly in related activities. On the contrary, if the participants in the Maryland survey are typical of today's practicing pharmacist, many members of this professional group seem inclined to become involved in consumer and community education about family planning with a significant, though somewhat smaller, proportion willing to provide advice in addition to information. This group could benefit from the development of guidelines outlining the aspects of family planning counseling which fall within its professional domain.

In a 1973 report to the House of

Delegates of the American Pharmaceutical Association, the Public Affairs Committee of this national organization recommended that the Association "encourage the voluntary participation of pharmacists in individual and organized activities related to family planning."⁸ The recommendation was adopted. It would seem that the time has come for the family planning field to recognize the importance of involving and assisting pharmacists in this effort.

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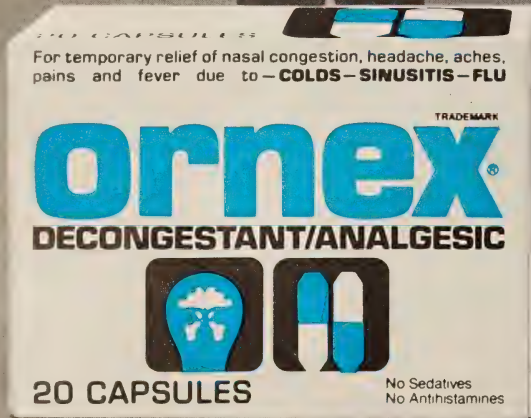
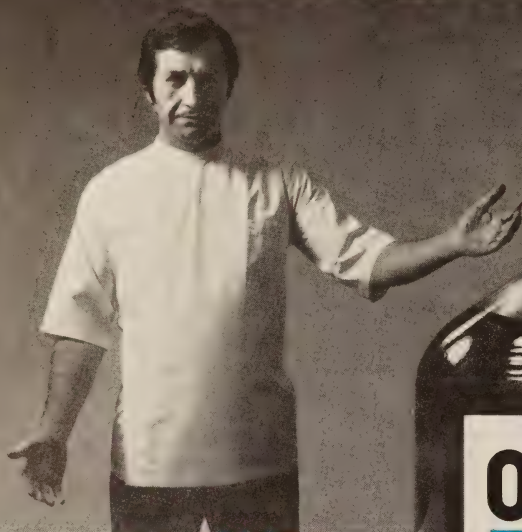
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EARLY PHARMACY IN THE BALTIMORE CAMPUS AREA, UNIVERSITY OF MARYLAND AT BALTIMORE

Captain Isaac E. Emerson

BY

B. F. ALLEN, PhD.

*Associate Professor of Pharmacy, University of Maryland,
School of Pharmacy*

PART I

The graduation exercises of the Professional Schools of the University, comprising the Colleges of Medicine, Law, Dentistry, Pharmacy and Nursing, were held at the Lyric Theatre, 128 West Mount Royal Avenue, on Saturday, June 4, 1927.

Three hundred and forty-six students received degrees or certificates. Graduates of the School of Pharmacy numbered thirty-three, and in addition two received the degree of Pharmaceutical Chemist.

One of the outstanding features of this occasion was the announcement of an endowment given by Captain Isaac E. Emerson, President of the Emerson Drug Company, northeast corner of Lombard and Eutaw Streets, for a professorship in Biological Testing and Drug Assaying in the School of Pharmacy.

The Lyric Theatre was filled to capacity with members of the several graduating classes and their friends. Great applause greeted this evidence on Captain Emerson's generosity and interest in the pharmacological aspects of pharmaceutical work.

The endowment consisted of several thousand shares of preferred stock of the Emerson Drug Company deeded to the University of Maryland, to provide an annual income of \$4,500 to be used toward the maintenance of a chair in biological testing and assay in the Pharmacy School.

The principal speaker at the commencement ceremonies asserted that the University was inadequate for the present day needs and the most desirable way to make it adequate is through private donations as just announced. He also stated endowments like that of Captain Emerson, based on personal conviction that the money is well invested, are always likely to prove more satisfactory than reliance on the taxpayers' rather grudging contributions.

It was hoped this magnificent gift to the School of Pharmacy would enable it to satisfy an urgent need and to assume the leadership in a line of work which had heretofore been neglected in most Pharmacy Schools. Also, the U.S. Pharmacopeia had made the biological assay of certain drugs and their preparations obligatory. Therefore it was essential that all pharmacists have a general knowledge of underlying principals of these assays and that a certain number of future graduates receive special

A continuing article, six papers have been published in this Journal since 1966.

training along these lines to prepare them to carry on this kind of work in pharmaceutical manufacturing plants and to conduct researches looking to the improvement of present methods.

It was the intention of the School to provide a fully equipped laboratory for this work in its new building to be constructed at 32 South Greene Street and to obtain the best trained man available to head the new department.

Marvin R. Thompson became the professor, the department was organized and suitable equipment was purchased. The Drug-Testing Laboratory, located on the top floor (north side) of the new pharmacy building, was opened in September 1930. (This structure is now known as the Allied Health Professions Building and the original drug-testing laboratory space, sometimes referred to as the Emerson Biological Assay Laboratory, is now occupied by the Department of Pharmacognosy).

This new unit was said to be the first of its kind in Baltimore created solely for the testing of drugs by other means than the well-known chemical tests. It was also said to be the most complete unit of its kind in the country.

Captain Emerson's generosity not only made it possible for the School of Pharmacy to furnish this kind of instruction in a dignified and proper manner, but it paved the way for establishment of similar departments in the other schools teaching Pharmacy.

Marvin R. Thompson was a graduate of the University of Minnesota, having taken post-graduate courses at both the University of Michigan and the George Washington University at Washington, D.C. and was for several years connected with the Bureau of Chemistry of the United States Department of Agriculture, devoting his time there to biological assay work, where he established for himself a national reputation for original work.

Professor Thompson became an outstanding individual in pharmaceutical education and held a place of eminence among the scientists in the drug industry. His work in the pharmacology and chemistry of ergot and its preparations was of a monumental character, and marked him as one of the modern pioneers in this field of science investigation. His work as a member of the faculty was equally fine. He had an unusual knack for making complicated scientific data of absorbing interest, and thus stimulated the students to their best efforts. However, with the closing of the school in 1938, Doctor Marvin R.

Thompson severed his connection with the school and accepted a post as Research Director with the firm of William R. Warner and Company, New York. Shortly thereafter, he was awarded the honorary degree of Master of Pharmacy by the Philadelphia College of Pharmacy and Science.

Isaac Edward Emerson, developer of Bromo-Seltzer,¹ was nationally known to pharmacists in 1927 as the founder of the Emerson Drug Company. He amassed a fortune in a career which began in a small Baltimore drugstore (1881). Upon his death in 1931, his will disposed of an estate valued at 20 million dollars.

His swift rise in the field of business from a small beginning to a position of dominance was one of the most dramatic stories in the annals of modern business.

He began his life as a proprietor of a local drugstore and "struck it rich" in the big city, and this is probably the reason why he had a soft spot in his heart for the retail pharmacists. His gift to the School was a most sensible way of giving expression to his sympathies and Maryland pharmacists were proud of being able to claim as one of their number a man of his type. Captain Emerson was a member for many years of the Maryland Pharmaceutical Association.

Isaac Edward Emerson was a native of North Carolina having been born at Chapel Hill in 1859. In 1876 Mr. Emerson entered the University of North Carolina to study chemistry and was a member of the graduating class of 1879. In the following year he served as an as-

sistant to the Professor of Chemistry at the University. However, while attending college, he worked part-time in a drugstore.

He came to Baltimore in 1881, passed the required pharmacy examination on June 29th, and became established in the drug business. Mr. Emerson then opened his first drugstore at 900 North Gilmor Street (corner of Lafayette Avenue and Gilmor Street). He conducted this drugstore until June 1889 when he sold the store to Mr. J. Wesley White. Isaac Emerson was a preceptor in the program of the Maryland College of Pharmacy school session 1883-1884 for Thomas S. Askew, a student from North Carolina. J. Wesley White graduated from the Maryland College of Pharmacy in 1883 and was a preceptor for Rhodes H. Councell in 1889.

A Baltimore newspaper reported in 1915 that the drugstore (900 North Gilmor Street) in which Captain Isaac E. Emerson made the discovery and laid the foundation for the fortune which he had made in this city changed hands on January 13th. Another newspaper article states that at about this time a Dr. Quandt owned the property and lived there. It is interesting to note that in 1925 the address of pharmacist Edward Quandt was listed as 904 North Gilmor Street and in 1929 as number 900.

Edward (Eduard) Quandt entered the old Maryland College of Pharmacy, 109-115 Aisquith Street in 1890 and graduated in 1892. While attending this institution his preceptor was listed as Sharp and Dohme.

As one of the requisites for graduation, a student

¹ Name possibly derived from Mount Bromo in Java.

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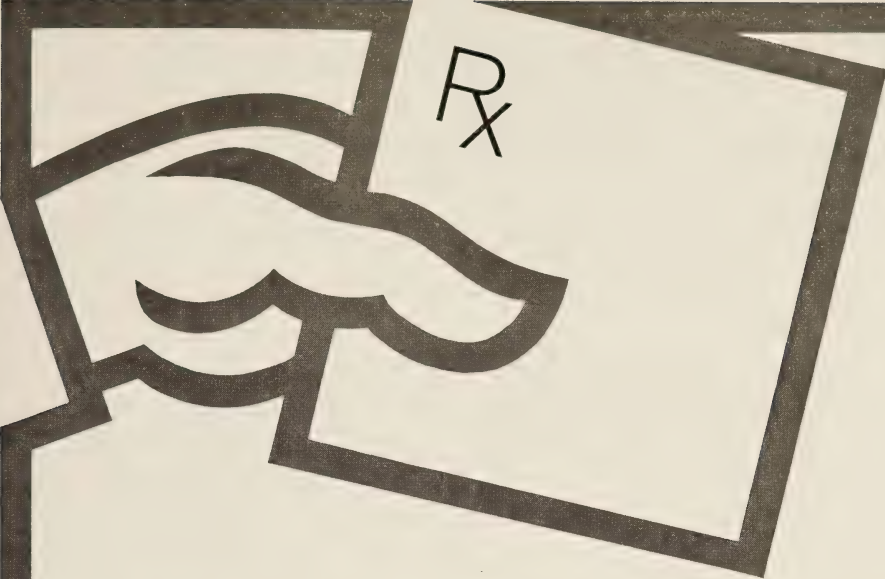
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had to present to the treasurer of the college, a thesis which was an original essay on some subject pertaining to pharmacy, or to the sciences associated therewith, investigated by the student himself. Edward Quandt received an honorable mention for his original thesis entitled "Lloyd's Process of Assaying."

Around 1892, three brothers, all graduates from the old Maryland College of Pharmacy purchased the retail drug business of Sharp and Dohme, establishing the Quandt Pharmacy at Lombard and Howard Streets.

The brothers in addition to Edward were Arthur A. and Ernest E. both graduating from the Pharmacy College in 1887. Sharp and Dohme was the preceptor for Ernest, Stauff and Foster for Arthur.

The Quandt brothers were preceptors for the following students attending the Maryland College of Pharmacy: Henry Zwanzger (1892-94), Edward Charles Schefer (1893-95), and Emil Heller Henning (1897-99).

Ernest E. Quandt was active in the Alumni Association of the Maryland College of Pharmacy. He was a member of the following committees: Auditing (1896-97), Deceased Members (1900-01) and Social Features (1901-02).

Quandt's Pharmacy located on the northwest corner of Lombard and Howard Streets became a thing of the past in 1932 when the stock and fixtures were disposed of at auction and the plan was for a lunch room to occupy the location (now occupied by Jack Portney's Sporting Goods Company). This drugstore was one of the landmarks in Baltimore, supposedly having been established nearly 75 years.

When the pharmacy at Lombard and Howard Streets was discontinued, all kinds of old pharmaceutical and chemical apparatus and equipment were found, most of which would have slight application in the routine type of drugstore. (Dr. Frank J. Slama, retired Pharmacy School Professor of Pharmacognosy, was employed at this Quandt Pharmacy from 1922-24 and remembers well all of the drugstore activities of the period).

It is very interesting to note that in 1896, just a short distance up the street from the Quandt Pharmacy, was located a branch house of the Parke, Davis Company (8 South Howard Street). One of their widely advertised products at that time was "Take-Diastase" which is still in use today and appears occasionally in compounded prescriptions. This company also advertised "drug cabinets for students" stating that only by carefully examining and handling specimens of many drugs can the student of pharmacy and medicine practically familiarize himself with the properties of drugs.

It was about this time (1889) that Isaac E. Emerson operated a second drugstore on the southeast corner of Edmondson and Fulton Avenues. This store was later owned by Roy M. Bierly who continued at this location until 1926. Mr. Bierly then opened a pharmacy on the southwest corner of St. Paul and 33rd Streets.

NOTE: According to Ross R. Campbell, news correspondent, MPH.A. The retail drug business of Sharp and Dohme was purchased by the Quandt brothers in 1892. Also, Edward Quandt owned the Pharmacy at 900 North Gilmor Street for 26 years.

Roy Murray Bierly graduated from the University of Maryland Department of Pharmacy in 1910. While a member of the Junior Class, he received honorable mention (second in order of merit), and upon graduation received a Certificate of Honor (third in order of merit).

The Edmondson and Fulton Avenues Pharmacy was owned for many years (and as late as 1964) by Samuel Portney, brother of Jack Portney who now occupies the Old Quandt Brothers Pharmacy location at the corner of Lombard and Howard Streets.

It was during this period (about 1890) that Mr. Emerson was listed as a Chemist at 127 Madison Avenue (extended) and withdrew from the retail drug trade as a proprietor of a local drugstore. From this time he cen-

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tered his attention to the manufacture and distribution of Bromo-Seltzer.

It was behind the prescription counter of the modest Gilmor Street Pharmacy in 1888, that Isaac E. Emerson first conceived the idea of preparing a remedy for headaches, something which would relieve the throng of sufferers, who came often to his Pharmacy seeking relief.

Emerson's interest in the study of chemistry and the experience gained from his practice of pharmacy was of great benefit to him in the experimental work which lead to the development of Bromo-Seltzer. After much experimenting, he decided that his preparation was to be in the form of a granular effervescent salt, and then proceeded to make up a preparation of this nature, and to combine in granular form such chemicals as were suggested to him by his knowledge of materia medica and pharmaceutical compounding.

However, it has been stated, that possibly the original idea for the formula came from a prescription written by a foreign doctor for a seaman as a headache remedy, which was compounded in the Gilmor Street Pharmacy.

When Emerson had completed his experiments, the formula was then produced in quantities large enough to submit to his friends and customers. The results obtained

were so uniformly successful, people would call for it at his pharmacy from all over the city.

Acetanilid was an ingredient of Bromo-Seltzer when the formula was originated in 1888. It was discovered in 1853 and introduced as a medicine in 1886. Each dose of Bromo-Seltzer, a teaspoonful, averaging about 80 grains, contained about $3 \frac{3}{5}$ grains of acetanilid. Caffeine was present in about the same quantity per teaspoonful, as obtained in drinking a cup of tea or coffee. Other ingredients were sodium bromide, citric acid and sodium bicarbonate.

The following interesting Bromo-Seltzer advertisement appeared in 1911:

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Lawyers—Take it after a hard fought legal battle in the courts. It quiets the nerves and soothes the brain.

Others—Take it because they know beyond the shadow of a doubt that it cures headache, brainfog and the "blues".

(To be continued)

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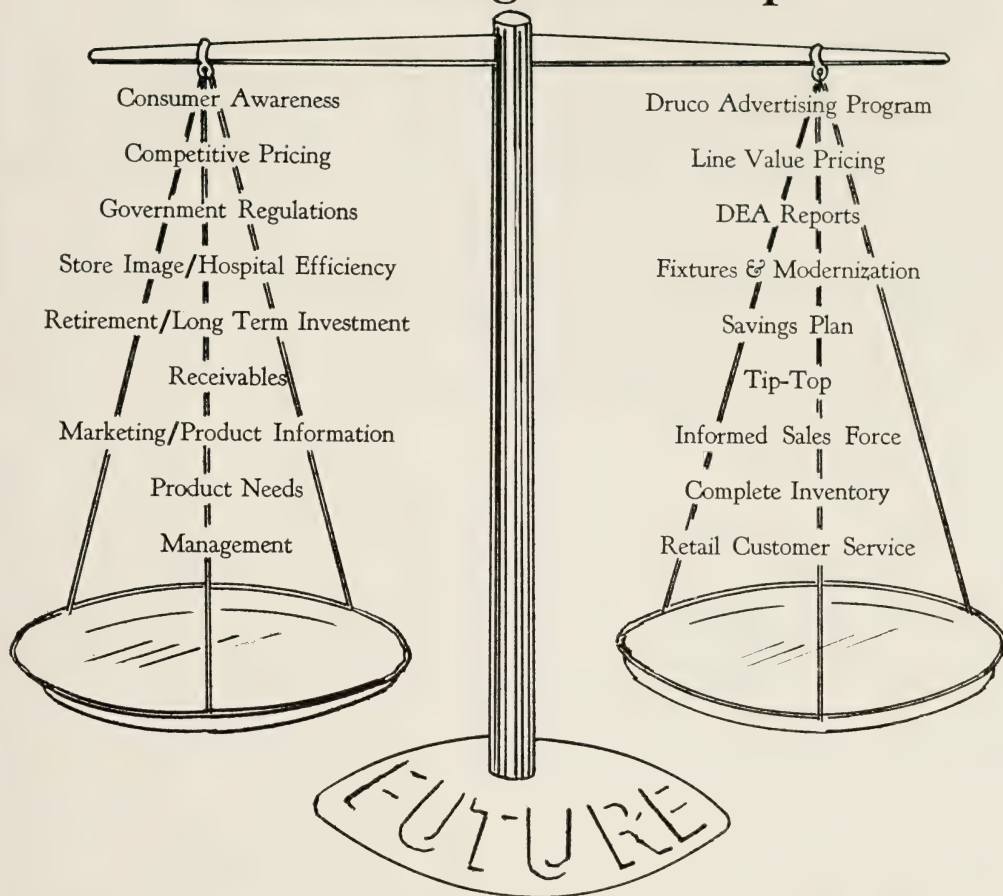
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Drug Utilization In The Institution

by SAMUEL LICHTER, Chief Pharmacist
Union Memorial Hospital, Baltimore

Drug Utilization Review (DUR), in a broad sense, may be defined as the review of physicians' prescribing, pharmacists' dispensing, nurses' administration, and patients' use of drugs. Drug utilization review not only improves the quality of drug use but it may also lead to cost savings for the institution, by uncovering situations in which less expensive therapy may be used with equal or better results. Thus the dual goals of utilization review are the encouragement of optimal use of drugs and the provision of high quality drug therapy as economically as possible.

Several categories of drugs (prescription and non-prescription) can serve as areas to be subjected to routine DUR. Examples are multiple vitamin formulations, antibiotics, cough and cold preparations, diuretics, anagogics, laxatives, and stool softeners. Each of these drugs is responsible for many duplications in hospital formularies as to drugs of equal efficacy and each is responsible for many non-formulary drug requests. Together, these two factors have hindered either cost reduction or stabilization.

A concentrated effort need be made within the hospital to educate the professional staff in the proper prescribing and administration of medications to patients, e.g. I.V., I.M., etc. The rate of administration and time of administration of medication are equally important considerations.

The importance of complete, clear physicians' orders need be stressed for utilization review and drug utilization review.

1. All orders must be timed and dated when written to assure prompt compliance for the benefit of the patient. Without a date and time a set of orders might mistakenly be considered part of the previous orders, therefore causing a delay in implementation.
2. Orders must be complete to include route of administration, dosage schedule in relation to meal-time and concurrent administration of other drugs, and dose to be administered.
3. Orders must be clear to assure proper implementation of the physician's intended wishes; the use of the complete drug name is required—not just symbols or abbreviations e.g. Ca for calcium without specifying which salt.

The clearer the orders, the greater the awareness of factors to be considered, the better the possibility of the rest of the team implementing the therapeutic regimen with a minimum of delay, hopefully improving the patient's progress.

The educational aspects of a drug utilization review program on an ongoing prospective basis are many and may include awareness of:

1. current recommendations on immunization
2. current rationale for use of insulin and other hypoglycemic agents
3. stability of drugs in plastic (Vialflex) I.V. bags
4. drug reactions
5. cost considerations

Drug utilization review, if properly implemented, can also provide a necessary by-product, improved control.

An example of the type of information which can be derived from a DUR program is a 3-month survey made from medication records of patients receiving anticoagulant therapy at the Union Memorial Hospital. Anticoagulant therapy can provide a multitude of potentially clinically significant reactions and interactions and this was the reason for choosing this group of patients for review.

In this study it was found that anticoagulant therapy with either heparin or warfarin could have been enhanced or inhibited by many of the drugs administered concurrently during the patients' stay in the hospital. During one admission of thirty days duration, one of these patients received twenty-three different drugs for a total of 460 doses. Fourteen of the drugs represented potential drug interactions.

Although utilization review has resulted from requirements set by third party groups (Blue Cross, Medicare, Medicaid etc.), the development of a program by which aforementioned considerations become routine, is essential to the proper delivery of health care services.

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Maryland Board of Pharmacy News

— NOTICE —

The Maryland Board of Pharmacy will conduct an examination for registration as Pharmacist at the School of Pharmacy, University of Maryland, 636 West Lombard Street, Baltimore, Maryland.

On Wednesday, Thursday and Friday
June 19, 20 and 21, 1974

The examination will begin at 8:00 a.m. each day.

Applications must be in the hands of the Board by Friday, June 7, 1974.

Pharmacy Changes

The following are the pharmacy changes for the month of March:

New Pharmacies

Drug Fair No. 163, Milton L. Elsberg, President;
E. Main Street, Frostburg Shopping Center, Frostburg,
Maryland 21532.

Great Oaks Center—Pharmacy, J. A. Cherepow,
Pharmacist; 12001 Cherry Hill Road, Silver Spring,
Maryland 20904.

Montgomery General Hospital—Pharmacy, R. L.
Hatzes, President; 18111 Prince Philip Drive, Olney,
Maryland 20832.

Changes of Ownership, Address

None.

No Longer Operating As Pharmacies

Consumers Pharmacy No. 74, Doris Behre, Chair-
man; 6873 New Hampshire Avenue, Takoma Park, Mary-
land 20012.

Controlled substances thefts reported by Drug Enforcement Administration

Although the number of thefts of controlled substances increased during calendar year 1973, the total number of dosage units involved was reduced by one-half from 1972 levels, according to statistics recently released by the Drug Enforcement Administration (DEA). Increased DEA security requirements for controlled substances at the manufacturer and distributor levels has reduced the number of large-volume thefts and amounts

for the significant decrease in the number of dosage units involved.

Of the 6,974 thefts reported to DEA in 1973, 81 percent (5,640) were from pharmacies. There were 423 thefts from physicians and other prescribers and 339 from manufacturers and distributors.

Of the 32,094,211 dosage units of controlled substances stolen in 1973, amphetamines accounted for the largest number—10.6 million, followed closely by barbiturates—10.2 million. "Other narcotics" accounted for 9.4 million of the total, methadone for 948,000 and cocaine for 828,000.

The average theft of controlled substances in 1973 netted about 4,600 dosage units.

Maryland Society of Hospital Pharmacists

The Maryland Society of Hospital Pharmacists co-sponsored a two-day seminar on "Hyperalimentation and I.V. Admixture" on March 22 and 23, 1974. The seminar which was held at the Friendship Hotel, BWI Airport, was co-sponsored with the D.C. Society of Hospital Pharmacists and McGaw Laboratories.

The program included the following topics: "Fluids and Electrolytes" by Bevins Clark, McGaw Laboratories; "Implementation of a Pharmacy Additive Service Program" by Jerry Price, Director of Pharmacy Services, Rex Hospital, Raleigh, North Carolina; "Pharmaceutical Aspects of Hyperalimentation" by Dr. Hugh Lunan, Associate Professor of Pharmacy, Howard University; "Clinical Aspects of Hyperalimentation" by Dr. Michael Kaminski, Dept. of Surgery, Walter Reed Army Medical Hospital; and "The Nurses Role in Hyperalimentation" by Rita Colley, R.N., Massachusetts General Hospital.



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TAMPA News

The Traveler's Auxiliary of the Maryland Pharmaceutical Association meeting of March 7 was held at the Phil Mar Inn. The meeting was opened with Joseph Hugg leading in prayer followed by the pledge to the flag. C. Wilson Spilker reported on the upcoming Ladies' Day activities planned for May 4 at the Milbrook Hall. Herman Bloom reported on the PHARMPAC Dinner at Burn Brae. President Abe Bloom then introduced all the Past Presidents in attendance.

Other reports included John Fagan reporting on the August crab feast plans; and Frank Watkins, special events chairman, reporting on the golf and tennis tournaments at the annual Convention.

Upper Bay Pharmaceutical Association

U.S. Congressman Robert Bauman was the featured speaker at the March 21 meeting of the Upper Bay Pharmaceutical Association held in Aberdeen, Maryland. The meeting was a joint dinner meeting of the allied health professions and many physicians, dentists, podiatrists, and physical therapists joined in attendance with the pharmacists. A discussion of Professional Service Review Organizations (PSRO) preceded the Congressman's remarks. Mr. Bauman then summarized the feeling of most of the physicians in attendance as he spoke against PSRO in its present form.

Eastern Shore Pharmaceutical Society

The Eastern Shore Pharmaceutical Society met on March 24 in Easton, Maryland. A general business session was followed by a dinner with Mr. Leon Weiner of the Division of Drug Control serving as dinner speaker. Mr. Weiner discussed pharmacy law and new legislation. A new feature of the meeting was a program on Arobic Dancing for the ladies presented by Y.M.C.A. instructors.

A.Z.O. News

The Joint Dinner Meeting of the Alpha Zeta Omega Pharmaceutical Fraternity and the Ladies' Auxiliary was held on March 17 at Annabel's in Towson. A breakfast meeting was scheduled for April 21 for the presentation of nominations for officers for the coming year. Also scheduled was a presentation on the Preceptor Program presently included in the curriculum at the University of Maryland School of Pharmacy.

AGP President Fedder appointed to FDA advisory committee

Baltimore pharmacist and Past MPhA President Donald O. Fedder has been appointed to the Food and Drug Administration Controlled Substances Advisory Committee by FDA Commissioner Alexander M. Schmidt for a one-year term which commenced Feb. 1.

The Committee, whose 15 members are chosen from "leaders in the fields of pharmacology, psychiatry, psychopharmacology and related medical specialties," acts as an advisory body to the Commissioner in matters "regarding the scientific and medical evaluation of all information gathered by the Department of Health, Education, and Welfare and the Department of Justice with regard to safety, efficacy and abuse potential of drugs or other substances classified as stimulants, sedatives, hypnotics or analgesics, and recommends actions to be taken by DHEW with regard to control of such drugs or other substances."

Mr. Fedder, the first pharmacy practitioner to be appointed to the FDA body, is President of the APhA Academy of General Practice of Pharmacy and will be installed as a member of the APhA Board of Trustees at the 1974 APhA Annual Meeting in Chicago, Aug. 3-8.

Obituaries . . .

Leon Raffel

Leon Raffel, 69, a 1930 graduate of the University of Maryland School of Pharmacy, died on March 11.

Manuel J. Vidal

Manuel J. Vidal, 70, died on March 11. He was a 1924 graduate of the University of Maryland School of Pharmacy.

Isadore Seldin

Isadore Seldin, 67, former Baltimore pharmacist, died on March 8. He was a 1926 graduate of Fordham University School of Pharmacy.

Ann S. Reznick

Ann S. Reznick, member of the Ladies Auxiliary of the Maryland Pharmaceutical Association and wife of pharmacist Paul Reznick, died on March 7.

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- Monday—June 24** — Opening General Session
House of Delegates Session
Joint Workshop with APhA Academy of General
Practice of Pharmacy on OTC Drugs
Ladies Tour to Longwood Gardens
TAMPA Annual Meeting
Evening: A night at the races
- Tuesday—June 25** — Second House of Delegates Session
Golf and Tennis Tournament continued
Ladies Program and Tour
Night Club—Movies—Card Tournament
- Wednesday—June 26** — Closing House of Delegates Session
Nomination of Officers and Board of Pharmacy
Closing General Session
Cocktail Party—Banquet—Dancing—Entertainment—Prizes
- Thursday—June 27** — Farewell

All members are invited and urged to attend MPhA House of Delegates Sessions.

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Volume 50
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Maryland Medical Assistance Program Information

Division of Drug Control Pharmacy Laws and Regulations

Early Pharmacy In The Baltimore Campus Area

CAPTAIN ISAAC E. EMERSON—Part II

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Practice of Pharmacy on OTC Drugs
Ladies Tour to Longwood Gardens
TAMPA Annual Meeting
Evening: A night at the races
- Tuesday—June 25** — Second House of Delegates Session
Golf and Tennis Tournament continued
Ladies Program and Tour
Night Club—Movies—Card Tournament
- Wednesday—June 26** — Closing House of Delegates Session
Nomination of Officers and Board of Pharmacy
Closing General Session
Cocktail Party—Banquet—Dancing—Entertainment—Prizes
- Thursday—June 27** — Farewell

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Editorial . . .

Pharmacy "No Fault" Insurance

The "no fault" insurance concept guarantees protection to all policy holders in the event of an accident no matter who is at fault. The injured parties collect from the company that they pay their premium to. Likewise, your state association, the Maryland Pharmaceutical Association, stands ready to protect its policy holders (members) who have paid their premiums (dues) from all outside forces which would seek to injure the Profession and the public that we serve. Our Association even goes one step further. It will protect *all* pharmacists in the State whether they have paid their dues or not. What we collect from our Association are the many benefits which it offers. Representation before the General Assembly, representation before other health groups, public service programs such as National Poison Prevention Week and National Diabetes Detection Week, sponsorship of continuing education programs, insurance and pension plan benefits are only a few of these benefits.

Insurance companies depend on a large number of policy holders in order to be able to pay benefits. Our Association also needs the financial support of more members. It stands to reason the more members we have, the more our Association can do for us. We need the support of *all* pharmacists in the State. Please pass this on to a non-member.

—Normand A. Pelissier

PSRO

Purpose

Professional Standards Review Organization (PSRO) is a program organized, administered and controlled by local physicians to evaluate the necessity and quality of medical care delivered in their area under Medicare, Medicaid and Maternal and Child Health programs. It is an effort to make review of Federally funded medical services more effective through greater participation by the physicians themselves. The Federal Government spends \$17 billion a year on the Medicare and Medicaid programs and has the responsibility to see that the medical care paid for with public funds is necessary and that it meets certain quality standards. The entire thrust of the program is based on the premise that physicians are best qualified to determine the necessity and quality of medical services. Local physicians will set standards and criteria for care, monitor to see that they are applied and take corrective action when they are not. A PSRO will not concern itself in any way with the fees for services charged by physicians or institutions.

Utilization Review

The PSRO will only review care delivered in institutions and will not cover care delivered in a physician's office, clinic, or other ambulatory setting unless the physicians in a PSRO request that it do so. The PSRO will accept the review performed by utilization review committees whenever the PSRO determines that such review is effective and that the physicians of the institution participate in the overall review activities of the PSRO.

Structure

PSRO units are established in each state according to geographical areas. Each state also has a Statewide Professional Standards Review Council which reviews appeals from a PSRO's adverse decision and assists the Department of HEW in the dissemination of information and data to the PSRO.

The Statewide Council also coordinates data gathering procedures within the PSRO areas of the State and evaluates PSRO effectiveness. The Council will consist of: one representative from each PSRO in the State; four physicians, two of whom may be designated by a State medical society and two by a State hospital association; and four persons knowledgeable in health care selected by HEW to represent the public (at least two of whom are recommended by the Governor of the State).

National Council

The National Professional Standards Review Council advises the Department of HEW on PSRO program matters. It will help provide data and information to Statewide Councils and PSRO's to aid them in carrying out their functions, review the norms used by a PSRO if they differ significantly from professionally developed regional norms of care, and aid in the review of the operations of Statewide Councils and PSRO's with regard to their effectiveness and comparative performance.

The National Council consists of 11 physicians of recognized standing and distinction in the appraisal of medical practice who are appointed by the Secretary of HEW. A majority of the members are selected from nominees of national organizations representing physicians. The Council also includes physicians nominated by consumer groups and other health care interests. Members are appointed or re-appointed for 3-year terms.

Funding

The Department of HEW will provide funding to the PSRO to cover all necessary expenses involved in carrying out its functions, including the reimbursement of physicians for time spent participating in review activities.

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MPhA In Action

Board of Trustees Meetings

NATHAN I. GRUZ, *Executive Director*

November 1, 1973

- Received communications from APhA which included reference to planned Justice Department action against bar associations that recommend minimum fee schedules for lawyers.
- Received notice of introduction of bill by Senator Gaylord Nelson which would require the use of official or generic names rather than brand names.
- Received communication from Anne Arundel County Pharmaceutical Association regarding placing of Schedule V drugs on prescription only.
- Referred letters from members of legislature regarding testimonial affairs to PHARMPAC Committee.
- Referred to legislative committee correspondence from Dr. Ralph Shangraw regarding third class of drugs and labeling of OTC drugs.
- Received President's Report noting attendance with Executive Director at meetings of Washington County Pharmaceutical Association in Hagerstown and Prince Georges-Montgomery County Pharmaceutical Association in Silver Spring. Other activities were concerned with preparing for the legislative session and relations with the Maryland Society of Hospital Pharmacists.
- Received Treasurer's report.
- The Executive Director reported on activities which included attendance at Maryland Board of Pharmacy meeting, arrangements for representation at University of Baltimore Careers Day program, Maryland Society of Association Executives, address to retired persons group, attendance at meetings of State and Metropolitan Pharmaceutical Association Executives and meeting of National Association of Retail Druggists in Portland, Oregon. Also attended MPhA House of Delegates meeting and Maryland Tripartite Committee meeting. Also involved in various problems associated with third party programs and the shortage of influenza vaccine which resulted in the Executive Director issuing a news release and appearing on television.
- Approved Membership Committee report.
- Approved a rebate to local associations for new active members which they obtain.
- Heard Prescription Insurance Programs report noting status of a number of third party payment programs including Medical Assistance program.
- Approved Convention Committee report.
- Heard Public Health Information Committee report on joint activity with BMPA regarding the prescription pricing survey conducted by the Junior League. A good relationship has been established and the committee is

planning meetings. An MPhA Consumer Affairs program is to be established.

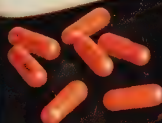
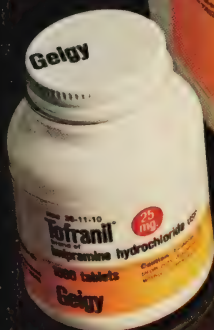
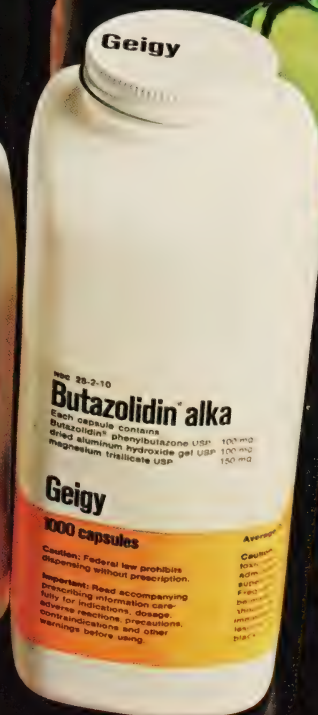
- Reviewed Legislative Committee plans and approved the seeking by the Association of a State law placing exempt narcotics on prescription only.
- Heard Board of Pharmacy report noting Health Department is requesting an increase in the per diem rate for Board of Pharmacy members from \$20.00 to \$30.00. Discussed requirement for maintenance of patient drug profiles and also pharmacy services in state penal institutions. The Executive Director requested that Association representatives be invited to the District 2 meetings of the Boards and College of Pharmacy.
- Heard Professional Relations Committee report noting MPhA participation in Diabetes Detection Week with pharmacists at testing centers and publicity through media.
- Heard Formulary Committee report noting that progress in full implementation of the generic law was slow with additional drugs being added to the formulary list after long delays.
- Received Tripartite Committee report on the proposed Pharm. D. degree program of the School of Pharmacy. More study is required before the Association can take

(Continued on page 10)

PHARMACY CALENDAR

- June 23-27**—92nd Annual Convention, Maryland Pharmaceutical Association, Downingtown Inn, Downingtown, Pa.
 - June 28-30**—Ninth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Williamsburg, Virginia.
 - July 14-18**—National Convention, Alpha Zeta Omega Pharmaceutical Fraternity, International Hotel, Freeport, Bahamas.
 - August 3-4**—National Catholic Pharmacists' Guild Twelfth Anniversary Convention, Midland Hotel, Chicago, Illinois.
 - August 3-9**—American Pharmaceutical Association Annual Meeting, Chicago.
 - September 29-October 4**—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas.
- 1975**
- January 14-22**—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

Legend drugs in their own time



a position. The Committee also discussed the establishment of a commission on pharmacy to review and set standards for the practice of pharmacy in Maryland. Also discussed continuing education and competency. MPhA is proceeding with legislation in this area.

- Approved the presentation of a plaque to past Speakers of the House of Delegates of the Association.
- Adopted in principle the maintenance and use of patient drug profiles as a standard of good pharmacy practice.
- Discussed the Maryland State Court of Appeals 6 to 1 decision to strike down the prescription drug advertising law. The decision is being reviewed by the Attorney General's Office and by legal counsel regarding advisability of appeal. MPhA participated in the case as *Amicus curiae*.
- Approved the appointment of Morris Bookoff as delegate to the NPIC Annual Meeting. President Padussis has asked Melvin Rubin to serve as alternate.

New Members

The following is a list of the new members approved at the November 1, 1973 meeting of the Board of Trustees of the Maryland Pharmaceutical Association:

- Dr. Earle G. Maseth, Cockeysville, Bioquest Laboratories
- Dr. Thomas H. Wiser, University of Maryland School of Pharmacy
- Wasył Tymick, Baltimore, Pledge.

January 3, 1974

- Received letter from U.S.P. outlining plans for promotion of the U.S.P. through state associations.
- Received letter from APhA requesting nominations for the Daniel B. Smith award for a community practitioner who has distinguished himself professionally.
- Received letter from School of Pharmacy faculty advisor of the *Terra Maria* Yearbook expressing appreciation for MPhA support.
- Received President's report noting his recent address to the Upper Bay Pharmaceutical Association. Great interest was shown in the proposed Pharm.D. program. There is a problem with emergency pharmacy service in that area. The President reported on the APhA-NARD Regional Meeting in Washington sponsored by COPEs on the pharmacy ownership matter. The President and the Executive Director have been invited to speak to the Prince Georges-Montgomery County Pharmaceutical Association on legislation.
- Received Treasurer's report.
- The Executive Director reported on activities including attendance at internship conference at College Park, Supreme Court hearing on the ownership case in Washington, D.C., University of Baltimore Careers Day, National Pharmaceutical Council Seminar on Professional Service Review Organizations, TAMPA night at Oregon Ridge, and Maryland Health Maintenance

Committee. In addition, conferences were held with the State Medical Society regarding drug utilization review and Peer Review and two meetings with the Assistant Secretary of Health on Medicaid. BMPA meetings included the Annual Meeting, Program Committee and Employee Pharmacists Committee. Conferences were held regarding the Pharm.D. program and with the MSHP President. Committee meetings also included legislation, convention, Peer Review, poison prevention, TAMPA, and MSHP.

- Attention was given to problems regarding Sunday Blue laws in Baltimore with attendance at court hearings on pharmacists' violations. Discussed issues with Director of Professional Affairs for Reads. All pharmacists were urged to attend the next TAMPA meeting which included a program on emergency treatment of heart attack victims.
- The Executive Director also reported on the Annual Meeting of the NPIC which was very informative. APhA and NARD continue to seek the dissolution of support for NPIC.
- Approved Membership Committee report.
- Approved Prescription Plans Committee report on the status of various plans. A meeting was held at the State Medical Society on Drug Utilization Review and with Assistant Secretary of Health, John J. Kent. He requested an increase in the Medicaid fee of 20 cents to include payment for the maintenance of drug profiles. Work has been done to bring the MPhA list of third party plans up to date. Mr. Gruz reported on efforts to have freedom of choice in all prescription plans.
- Heard Convention Committee report on the format and publicity for the 1974 Convention.
- Received Legislative Committee report on a price posting bill which had been pre-filed. MPhA is working on a possible posting bill and Delegate Brown will introduce an amendment on drug product selection legislation. There is also a draft of a continuing education bill and a possibility of removing residence requirements for Board of Pharmacy members. MPhA will seek classification of exempt narcotics on prescription on a statewide basis.
- Heard Convention Trip Chairman report noting that there were some seats still open on the Israel trip.
- Heard School of Pharmacy report. The Dean noted that there was a new chairman of the Department of Pharmacology and that the state was funding the poison control center in an amount exceeding \$100,000. An open house is planned on March 7 for prospective students, counselors and alumni. The Medical Assistance Advisory Committee is adding additional pharmacists and the American Association of Colleges of Pharmacy is more active in non-educational pharmacy affairs such as FDA labeling and inter-association matters.
- Heard Board of Pharmacy report on FDA price posting proposal. Also noted some problems of pharmacists and investigation of some physicians involved in dangerous substance prescribing. The matter of triplicate prescrip-

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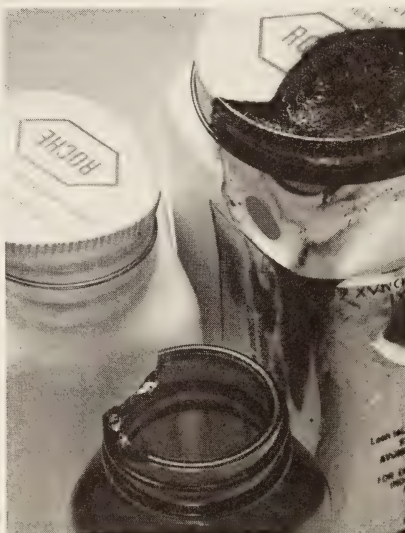
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tion forms to combat forged prescriptions is under review.

- Approved Professional Relations Committee report noting that MPhA was invited to a meeting of the Joint Practices Committee of the Medical Society. This joint committee with MPhA discussed Peer Review, triplicate prescription forms for dangerous substances, the pharmacist's role in the hospital, notification of physicians when an alternate drug is selected, and the professional role and function of the pharmacist.
- Reviewed the proposal for the Pharm.D. program of the School of Pharmacy. Discussed the need for careful consideration and the possibility of placing this item on the program of the MPhA Regional Meeting.
- Approved appointment by President of new convention trip chairman and co-chairman. The President asserted that members of the Board of Trustees should not promote any trips that were in conflict with the Board's policy.
- Heard report on the joint MPhA-MSHP Peer Review Committee meeting. The MPhA Peer Review Guidelines will be presented to the MSHP for adoption.
- Approved Public Relations Committee report outlining

plans in connection with National Pharmacy Week and promotion of the theme of Over-The-Counter Intelligence throughout the year. It is planned to make tapes available to radio stations throughout Maryland. The March of Dimes has allotted January and February to a pharmacy message on its "Dial-A-Doctor" project. Dean Kinnard recorded a message on behalf of the MPhA on the pharmacist's role. Mr. Seidman announced forthcoming plans by the University of Maryland School of Pharmacy on Continuing Education. He reported that a program on cancer education for health professionals will be co-sponsored by MPhA along with the Cancer Society.

New Members

The following is a list of new members approved at the January 3, 1974 meeting of the Board of Directors of the Maryland Pharmaceutical Association:

Bruce H. Baker, Silver Spring, Walter Reed Hospital
Larry Gatlin, Gaithersburg, N.I.H. Clinical Center
Barry D. Hecht, Baltimore, Read's Drug Stores
Norman A. Powers, Silver Spring, Hoffman LaRoche
Anthony Tommasello, Glen Burnie

Maryland Pharmaceutical Association House of Delegates Session

April 18, 1974

The meeting was called to order by Speaker S. Ben Friedman. The Roll Call was given by Nathan I. Gruz. With the minutes of the previous session approved, Speaker Friedman appointed Victor Morgenroth, Jr. as Parliamentarian.

The Speaker appointed a committee of presidents and secretaries of the county organizations to meet before regional meetings for the purpose of presenting policies and statements of direction for the House. This committee will be chaired by Melvin N. Rubin.

The Speaker also appointed a Pharmacy Practices Committee to be chaired by Henry Seidman and include Barry Bloom and Robert E. Snyder. This committee will study matters pertaining to Pharmacy and make recommendations on courses of action to the House.

Reports were presented by the following committee chairmen and officers:

- President's report—Anthony G. Padussis
- Executive Director's report—Nathan I. Gruz
- Board of Trustees report—Bernard B. Lachman
- Legislative Committee report—Paul Freiman
- Convention Committee report—Paul Freiman
- Prescription Insurance Programs—Melvin N. Rubin
- Constitution and Bylaws Revision Committee—Henry G. Seidman and Victor H. Morgenroth, Jr.
- Board of Pharmacy report—Frank Block

The committee reports were followed by reports from local associations. Milton Watkowski reported for the Anne Arundel County Pharmaceutical Association. Paul Reznick reported for the Prince Georges-Montgomery County Pharmaceutical Association. Simon Zvares will be installed as President of the Prince Georges-Montgomery County Pharmaceutical Association on June 16. The Installation Banquet will be held at the Holiday Inn in College Park, Maryland. Edward Sears reported from the Upper Bay Pharmaceutical Association. Melvin Rubin reported for the Baltimore Metropolitan Pharmaceutical Association.

Speaker Friedman called for the MPhA Budget and Finance Committee to prepare a financial format for the presentation of the Treasurer's report at future meetings. The continuing education programs of the School of Pharmacy were announced. Ronald Lubman presented the details for the MPhA sponsored Hawaiian Holiday and Seminar scheduled for January 14 to 22, 1975.

During the luncheon, Past MPhA President Bernard B. Lachman received the E. R. Squibb Past President's Award which was presented by District Manager Gerald Bringenburg. The afternoon session followed with presentations by Dr. William J. Kinnard on the proposed Pharm.D. Program at the University of Maryland; Dr. David A. Knapp, Professor of Pharmacy Administration at the School of Pharmacy spoke on 1974 health maintenance legislation; Ms. Sue Fine of the State Department of Health reviewed the status of the Medicaid Program and Jerome Mask spoke on the Pharmaceutical Services Foundation of Maryland.

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Pharmacy Laws and Regulations

MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE DIVISION OF DRUG CONTROL AND PRODUCT SAFETY

Pharmacy Related Matters

1. In the past, Controlled Dangerous Substances listed in Schedule II must have been stored in a securely locked, substantially constructed cabinet. However, pharmacies and institutional practitioners as defined by Federal law, may now disperse, if so desired, such substances (II, III, IV and V) throughout the stock of non-controlled substances in such a manner as to obstruct the theft or diversion of the controlled dangerous substances.

2. Mr. Harold Gordon, Chief, Division of Licensing and Certification, Maryland State Department of Health and Mental Hygiene recently distributed to Nursing Home Administrators, Directors of Nursing, Supervisors of Nursing, Charge Nurses and Principal Physicians the following letter:

"It has come to the attention of this Division that physicians have been leaving presigned blank MAA prescriptions (DHMH 235), and presigned personal prescription blanks at nursing homes for cases of emergency or for use when the physician cannot visit the facility. The practice of leaving presigned MAA prescription blanks at nursing homes is in direct violation of the policies of the State, and is sufficient reason for the removal from the MAA program of all participating parties. Effective immediately, the practice of leaving presigned blank MAA prescriptions, or presigned personal prescription blanks at the nurses stations, or with the administrators will cease. If there are any such presigned prescriptions now at your facility, you must return them to their respective physician or destroy them immediately. It has also been noted that prescription blanks (both MAA and physicians) have been stolen from the facilities and are being used for illegitimate purposes. Forgeries have been found at several pharmacies. If there are any unsigned blank MAA or physicians prescriptions in your facilities, they should be kept only by a responsible person and preferably placed under lock and key."

3. The Federal Food and Drug Administration plans to tighten testing requirements for Digoxin, a potent drug utilized by about 3.5 million American heart patients, to assure an adequate and uniform absorption rate. The agency said that up to ten percent of the Digoxin sold in America appears to dissolve too fast or too slow, making it difficult for physicians to prescribe the correct dosage. The result of an inadequate rate of absorption can be digitalis poisoning. Should a consumer inform you of any discrepancy which might be a warning signal with Digoxin, please inform this office of brand name, lot number and control number of that drug.

4. The Poison Prevention Packaging Act relative to prescription drugs became effective on April 16, 1974. Any drug for human use that is in a dosage form intended for oral administration and that is required by Federal law to be dispensed only by or upon an oral or written prescription of a practitioner licensed by law to administer such drug, except sublingual dosage forms of nitroglycerin, shall be packaged in a "child resistant container." The Consumer Product Safety Commission is presently considering other exemptions. This office will inform you as soon as possible should further exemptions be enacted.

Dr. Matthew Tayback, State Director on Aging, has requested that pharmacists be apprised that should a practitioner or a patient request medication be dispensed in a regular conventional container (not safety closure) that the request must be honored. A receipt signifying such should be maintained by the pharmacist. In addition, safety closure containers are not to be re-used. Therefore, all medication dispensed in safety closure containers must be dispensed in a new closure container each time.

5. It has come to the attention of this office that there are individuals who are attempting to obtain drugs by the mode of illegally printed prescription blanks. The prescription blank appears to be valid with all pertinent information listed thereon; however, the telephone number listed would be that of a coin operated station and not a practitioners office or residence. Therefore, should the telephone number be called which is listed on the prescription blank, a person would be waiting at the coin operated station to acknowledge the validity of the prescription. The fourth digit of the coin operated station is usually the numeral nine (9) (383-9123). However, there are also practitioners with the numeral nine as their fourth digit, therefore, if the telephone number listed on the prescription itself is not listed in the telephone directory, please telephone the operator to verify whether or not the telephone number on the prescription is that of a coin operated station and not a practitioners office or residence. The prescription would probably not be valid and this issue should be handled accordingly.

6. The Federal Drug Enforcement Administration prohibits the post-dating of prescriptions for controlled dangerous substances. Under this law, prescriptions for controlled dangerous substances shall be dated as of and signed on the day when issued.

7. The Department has received inquiries as to the quantity of Methylphenidate which may be prescribed

and dispensed. Presently, there are no legal restrictions as to the quantity that may be prescribed; however, professionally, each practitioner should control his own prescribing habits with this chemical because of the abuse which can occur. Should there be any question relative to the quantity prescribed, please contact this office. Presently quantity restrictions apply only to amphetamines and methamphetamines and their compounds.

8. In compliance with Maryland law, for those drugs that may be dispensed only on a prescription, unless the prescriber has authorized refilling a definite number of times on the original prescription, the container in which such drug is dispensed shall be labeled with the following or similar wording:

"This prescription cannot be refilled except in the prescribers authorization to the pharmacist."

9. This office recently had communication with Lieutenant Leon Tomlin relative to forged prescription problems in the Baltimore City area. In summary, Lieutenant Tomlin said that if the person is on the premises or if the person is going to return to the store to pick up the medication, to telephone 222-3333 and the "closest patrol" car in the reported jurisdiction will be sent to handle the issue. If you still have the forged prescription in your possession and if the person cannot be apprehended and the immediate services of a police officer is not necessary, then telephone Lieutenant Tomlin's office at 396-2634 or 396-2724 so that an agent may pick up the forged prescription which will be used to assist offi-

cials in developing a "pattern." Also, inform the Division of Drug Control of all such activities. Always make certain a prescription is bonafide and valid before dispensing same.

10. Reports have come into this office that there might be problems of abuse occurring with formaldehyde. As a reminder, to be in compliance with Section 276 of Article 43 of the Annotated Code of Maryland, persons selling poisons, which includes formaldehyde, shall enter in a poison registry book the date of sale, name and address of purchaser, name and quantity of poison, purpose for which it is purchased, name of dispenser and such record shall be signed by the person to whom the poison is delivered. Please notify this office of any issue which you believe we ought be informed of regarding formaldehyde or any other poison.

1. Detective King of the Montgomery County Police Department has notified this office that forged prescriptions are presently being passed in the name of Albert J. Weinstein, M.D., 10301 Georgia Avenue, AW 1046747, telephone number 589-9729. Should you receive same, please contact Detective King or someone in his office at 762-1000 or contact your own local police.

—C. H. Tregoe, Chief
Division of Drug Control and Product Safety

TOOTH LOSS — Periodontal (gum) diseases cause most of the loss of teeth in adults, reports the National Institutes of Health.

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EARLY PHARMACY IN THE BALTIMORE CAMPUS AREA, UNIVERSITY OF MARYLAND AT BALTIMORE

Captain Isaac E. Emerson

BY

B. F. ALLEN, PhD.

*Associate Professor of Pharmacy, University of Maryland,
School of Pharmacy*

PART II

The Emerson Drug Company, as late as 1922, made no extravagant claims for their preparation but simply advertised it as a remedy for headache and neuralgia. They believed that the wonderful results obtained were due to the medicinal value of each individual constituent, to the care expended in making the preparation as physically perfect as possible, and to the splendidly balanced combination. Also, the public was invited to visit the laboratories, and personally inspect the home of Bromo-Seltzer.

At a meeting of the Mercy Hospital staff, Baltimore, in 1938, William S. Gardner, M.D., a University of Maryland Professor Emeritus, made the following interesting statement:

"There is very good evidence that acetanilid is not a very dangerous drug, it is the fact that in this town, tons of it have been swallowed in the past 40 years in Bromo-Seltzer, and the town has not yet been depopulated. It is everybody's remedy for the headache of the cold gray dawn of the morning after. In other words, it is efficient and is widely used. A drug is not necessarily good because it is new, and is not necessarily bad because it is old."

The 1969 Handbook of Non-Prescription Drugs published by the American Pharmaceutical Association, states that the granular dosage form of Bromo-Seltzer contains in each capful 130 mg phenacetin, 32½ mg caffeine, 195 mg acetaminophen, 162½ mg potassium bromide, sodium citrate and citric acid to yield 2 grams of sodium citrate.

(Bromo-Seltzer was given rough treatment in an article on "Indigestion Aids" in a recent issue of Consumer Reports because of a relatively high amount of caffeine and the addition of two analgesics—acetaminophen and phenacetin—that are "unnecessary in an antacid").

In 1891, The Emerson Drug Company of Baltimore City was organized and incorporated under the laws of the State of Maryland. Just prior to this time (1890), the firm began operations as the Emerson and Waggaman Company after Isaac E. Emerson had interested John F. Waggaman of Washington to invest in his headache remedy formula.

The company's first location was 9 South Charles Street. In 1891, the manufacturing plant and offices were located at 205 East Fayette Street, and in 1893 at 311 West Fayette Street.

In 1891, the officers of the Emerson Drug Company were Emerson, president; Waggaman vice-president; Jo-

seph F. Hindes, Jr., secretary. Also, the company advertised to the retail drug trade as "Manufacturing Chemists" and owners of the popular preparation Bromo-Seltzer and other Pharmaceutical Specialties. (Note: Many years later Joseph F. Hindes was a member of the Baltimore Veteran Druggists' Association).

At this time (1891), the company set aside 2000 shares of its stock, par value \$25, one share of which was offered gratis to each retail druggist who sold \$60 worth of Bromo-Seltzer within a 12 month period. The company also had some other voucher-type plans whereby the druggists received stock after sales of Bromo-Seltzer and then participated in dividends. However, the Emerson Drug Company reserved the right to refuse to issue stock to any druggist who may be designated as a "Cutter" by the "Association of Manufacturers and Dealers in Proprietary Medicines."

In 1901 the company moved to a larger building located at 308-10 West Lombard Street. In 1904, additional property was acquired at 312 West Lombard Street. By 1910, the company had expanded to such an extent that the remaining property on Lombard Street to Eutaw Street was acquired.

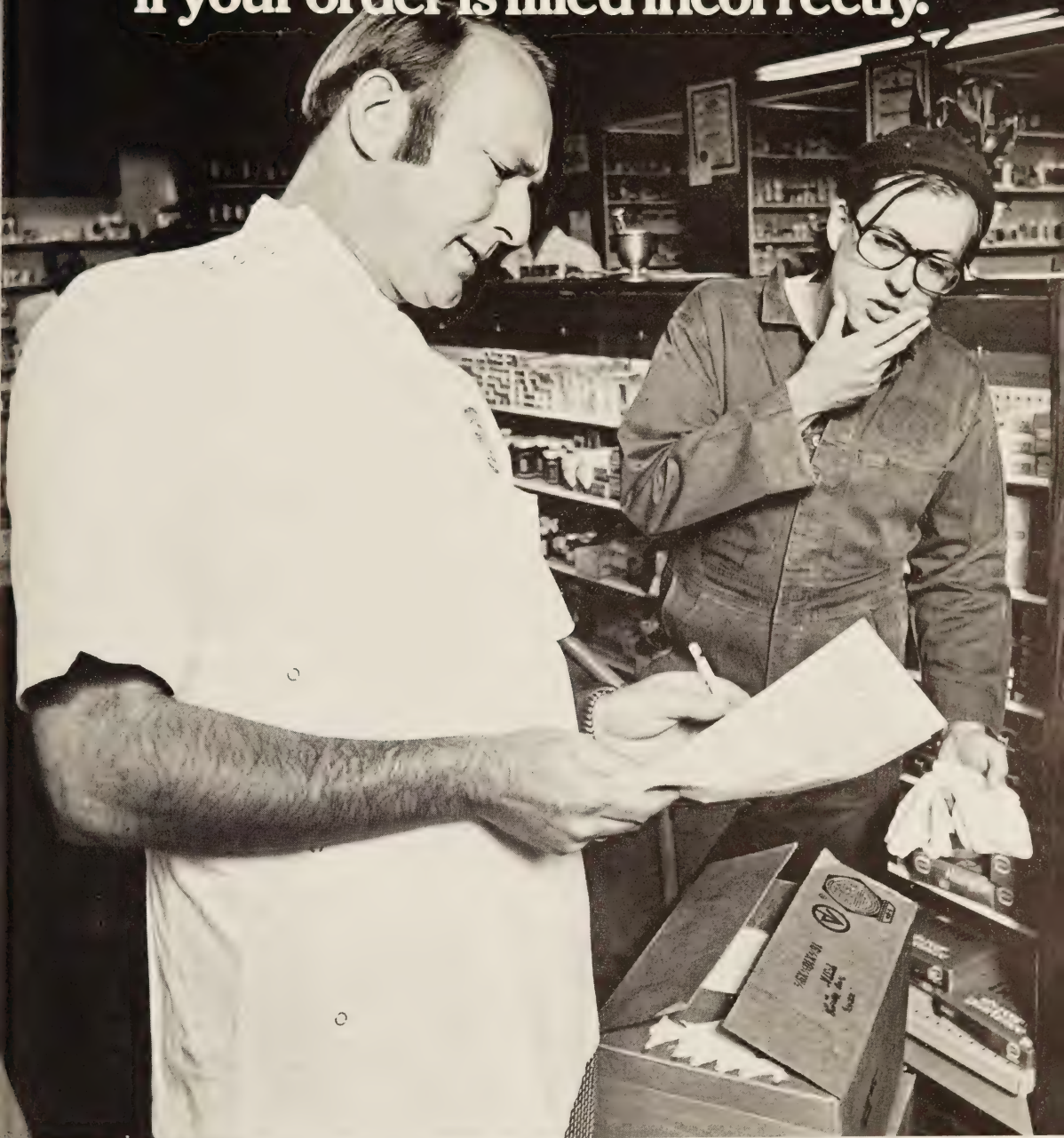
Later, property on Eutaw Street northward from Lombard Street and reaching Cider Alley was acquired. In 1929 a four story building was purchased at 5-7 South Eutaw Street across from Cider Alley for expansion purposes. The Eutaw Street properties and the three properties on Lombard Street housed the company until 1967 when the manufacturing process was moved to Pennsylvania² by the Warner-Lambert Pharmaceutical Company which had purchased the business. (In 1955 the Bristol-Myers Company made an offer to purchase the Emerson Drug Company which was not accepted by the principal stockholders.)

In 1911 on the northeast corner of Lombard and Eutaw Streets the tower portion of the Emerson Drug Company building was completed. This high tower surmounted by a revolving blue bottle (with a gold crown) became the landmark it has remained to this day.

When the tower was completed in 1911, it was the tallest structure in Baltimore. Including the bottle on top, it was 357 feet high, and the base 34 feet on each side. The bottle was made of steel and painted blue. It was 51 feet high and 20½ feet in diameter and weighed 17 tons.

² Lititz, 6 miles north of Lancaster.

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Norfolk—Colon Sawyer, 6435 Tidewater Drive, Norfolk, Va. 23509/(804) 855-1901 Washington—Frank Antkowiak, 901 Southern Avenue, Washington, D.C. 20032/(301) 630-4500

It revolved slowly, about 2 revolutions a minute. The letters on the side of the bottle and crown were illuminated by 596 electric lights. Many ships coming up the Patapsco River steered toward Baltimore's inner harbor docks by sighting the tower's lights at night. Also, for many years, passengers aboard excursion steamers in the Chesapeake Bay could see this "tower" at night from a distance of about 20 miles. In fact, often in the past, it was referred to as a "lighthouse."

Emerson supposedly received the idea for the Bromo-Seltzer Tower during a trip to Europe. He was impressed by a fourteenth century tower in Florence, Italy and upon his return, commissioned Joseph E. Sperry, one of Baltimore's leading architects, to design it.³ It has been described as a unique combination of Florentine grace and American private enterprise. When it was built, the people of Baltimore marveled at the structure and said it will probably be a source of amazement for generations to come. Today, the "Bromo" tower marks the motorist's approach to Baltimore from Washington and adds both interest and color to the skyline. Even the fast-moving motorist traveling north on the Expressway must sometimes admire his brief glimpse of this structure and delight in the sight of something well-made.

The Bromo-Seltzer Tower Building, because of its unusual appearance and because of the bottle on top as well as the clock, excited much comment from Baltimoreans and visitors alike. The 17-ton bottle was 10 million times the size of a 10-cent blue Bromo-Seltzer bottle sold to customers around 1911. The tower's clock at that time was the largest four-dial gravity clock in the world—larger even than Big Ben in London.

In 1911, the giant timepiece described as a master clock, the only one of its kind in the world, was completed at the factory of the Seth Thomas Clock Company, Thomaston, Connecticut. The clock is 24 feet in diameter. The minute hand is 12 feet 7 inches long and weighs 175 pounds, the hour hand 9 feet 8 inches long and weighs 145 pounds. The pendulum is 15 feet and weighs 475 pounds. The timepiece is operated by 5 weights, which must be raised every 6 hours. This was originally done by hand, but later an electric motor was added. There is a clock dial on each of the four sides of the Tower, 200 feet above the pavement.

On each face of the clock is a circle of Roman numerals, and bordering that a circle bearing the 12 letters BROMO SELTZER, one for each hour of the day. (In 1971, each face of the largest four-faced clock in the world measured 40 feet 3½ inches in diameter; the minute hand was 20 feet long. The clock was on the Allen-Bradley Company building in Milwaukee).

In the early twenties the night scene of the Bromo-Seltzer Tower building was something to behold. On extra special occasions, and New Year's eve was one, strings of electric lights were mounted on the tower around the arches below the bottle, and almost the entire manufacturing plant surrounding the tower. In addition to the bottle and crown being illuminated, a brilliant scene resulted when the many hundreds of electric lights

were turned on outlining the tower and other buildings of the Emerson Drug Company.

The tower was not designed for public access. However, it was open to the public during the Democratic Convention of 1912 and also in 1914 during the Sesquicentennial Celebration.

Through the years, several changes have been made. In 1936, the bottle was removed from the tower because it was expensive and a lot of trouble to maintain. Then, in the Forties, neon signs were added to the tower.

In recent years, many taller buildings have been built in Baltimore, and the tower is somewhat overshadowed, though still imposing.

A member of the Baltimore Veteran Druggists' Association, William McKenna (died in 1967), joined the Emerson Drug Company two years before the construction of the Bromo-Seltzer Tower and watched it being built. He climbed many times to the crown of the Bromo-Seltzer bottle, directed its cleaning for several years and supervised its dismantling in 1936. Mr. McKenna worked his way up from a raw material handler in 1909 to a plant foreman, then a superintendent, and retired in 1961 as vice-president and a director of the company.

In 1967, the Emerson Drug Company (at this time, a subsidiary of the Warner-Lambert Pharmaceutical Company) moved out of Baltimore. The 56 year old landmark was given to the City. After some discussion, the tower was saved from demolition and the Fire Department indicated plans to build a new fire station around the structure. In November, 1969, the old factory around the Bromo-Seltzer Tower was completely removed, and today the Tower is surrounded by the largest fire station ever built in Baltimore.

Although the future plans by the City for this Tower are not clear, a very practical use for it would be that of an Observation Tower—a much needed City Tourist attraction.⁴ However, many natives have welcomed back an old friend missing from the local scene for several years—a working (operating) clock on the Bromo-Seltzer Tower. It has also been noted that the strolling and sitting noontime crowd that gives Hopkins Plaza its life today, occasionally checks the time on the Bromo-Seltzer clock.

It is interesting to note that within a short walk of this old building is the former location of the original Sharp and Dohme Apothecary Shop and later the Manufacturing Plant. Several other pioneers in pharmaceutical manufacturing were located in this general area many years ago, for example, John F. Hancock and Son and Burrough Brothers.

The location of this unusual tower-type building is just two city blocks east of the University of Maryland School of Pharmacy. Students at this institution have looked with attention at this structure for 62 years.

Although Isaac E. Emerson died in 1931, today, this downtown tower building is still a reminder of him and articles concerning this unusual structure continue to appear in the local newspapers.

³ Modeled after the Palazzo Vecchio Tower in Florence.

⁴ On December 23, 1973, became the Baltimore Arts Tower.

The city dwellers considered Bromo-Seltzer a Baltimore institution. The Emerson Drug Company was always located in the so-called downtown section near the area finally settled upon where the tower was built. It has been stated that the tower represents "turn-of-the-century high-rise office building construction." Baltimoreans often referred to this structure as "That beautiful Emerson Tower." The tower was officially designated as an historical landmark in 1968 and will thus be preserved and maintained as a familiar sight within downtown Baltimore.

In 1969, funeral services were held in the Baltimore metropolitan area for a retired carpenter, (Harry Guy, Sr.) who helped build the Bromo-Seltzer Tower by constructing the foundation for the poured concrete. Within the shadows of this unusual Tower, about 3 city blocks away, is the birthplace of Babe Ruth. Also, for many years down the street from the Tower Building was a tavern operated by Ruth's father, which was known as "Home Run Inn."

As early as 1897, Isaac E. Emerson's home was a 25-room mansion in the 2500 block Eutaw Place, (an extension of Eutaw Street) near the leading entrance to Druid Hill Park. Captain Emerson took pride in this domestic establishment. On it he expended considerable time and money, its fittings and surroundings were sumptuous, and for many years was one of the show places of the City. The formal Italian Garden was copied from Villas, he had visited in Italy. In this garden, Emerson carried out harmonious grouping and picturesque arrangement of foliage and statuary to the complete illusion of an Old World Picture.

He later built on the garden site the Emersonian Apartments, 2502 Eutaw Place, which when erected was one of the best and most thoroughly equipped apartment houses in Baltimore. (The Manheimer Pharmacy has been located for many years on the ground floor of this apartment building).

Emerson's magnificent townhouse at 2500 Eutaw Place in later years became the Mercantile Club and then Eutaw Professional Building. This mansion is still standing today, although it was subjected to a four-alarm fire in 1967.

The Booth-Epstein Mansion, 2532 Eutaw Place, also one of the relics of the turn-of-the-century grandeur in this area was torn down in 1969. The architect for this landmark was the same one who designed Emerson's Bromo-Seltzer Tower.

Isaac E. Emerson was a yachtsman of note, and his interest in the sea was more than academic. Everyone called him "The Captain" because he was extremely active from about 1891 to 1901 in the Maryland Naval Militia (sometimes called the Reserves). At one time he commanded this naval unit and developed it to a high degree of efficiency. Emerson often drilled this group at the Hollins Market Hall which is located about five city blocks west of the Baltimore campus of the University of Maryland.

For a period of time prior to the outbreak of the

Spanish-American War, he attended the Naval War College at Newport. When the war broke out the Maryland Naval Unit commanded by Emerson and composed of 476 men was mustered into the service. Emerson was commissioned a lieutenant in the Navy and assigned as assistant to the Chief of the Auxiliary Naval Force. He was engaged in assembling a fleet of speedy vessels for coast patrol service from Cape Hatteras northward for 200 miles when the Spanish fleet was destroyed off Santiago and the war ended.

In 1910, a move was launched to have Emerson become a mayoralty candidate. Captain Emerson took little interest in politics and he promptly refused. This was also the year when he started construction on the tower building as well as a one million dollar hotel on the northwest corner of Baltimore and Calvert Streets.

The Hotel Emerson, opened in 1911, was within walking distance of the Headache-Powder Tower-Factory on West Lombard Street. This hotel in the heart of downtown Baltimore also became a well-known landmark and was finally torn down in 1972 to make room for a parking lot.

Throughout the years, many meetings and social affairs sponsored by the School of Pharmacy were held at the Emerson Hotel. The last convention (1930) held in Baltimore by the American Pharmaceutical Association was at this hotel. Samuel Y. Harris, pharmacist, southwest corner Lombard and Poppleton Streets was the local secretary for this convention.

Emerson, at times also called the Bromo-Seltzer King, organized and controlled the Maryland Glass Corporation. The glass company was located in Mount Winans which at the time was on the outskirts of Baltimore, the old southwestern section of the City, and easily reached from the downtown location of the "Tower" by travelling out the old Washington Boulevard (formerly called Columbia Avenue) which started just two city blocks from the Emerson Drug Company.

The Maryland Glass Corporation of Baltimore, was at one time, the largest manufacturers of blue glass bottles in the United States. Even today in the arts' field, this color is sometimes referred to as "Medicinal Bromo-Seltzer Blue."

Throughout the years, the Emerson Drug Company has been involved in the manufacture of some other interesting products. In the 1920's the Bromo-Seltzer Tower Building was described as the home of Bromo-Seltzer and Ginger-Mint Julep. The latter was an extremely fine tasting soft-drink and probably blended well with many of the "prohibited" beverages of the time.

In the 1930's, it was reported that Emerson Drug lost 2-million dollars on "Seventeen", a cosmetic, before giving up on it and selling out. "Fizzies"—a new idea in soft drinks—was introduced in May 1957. They were tablets which instantly made a fruit-flavored drink when dropped into a glass of water. This product was especially appealing to children, because of the "fun to make" feature. In 1966, the company was also making a "denture cleanser."

The Poison Pen

THE ROLE OF THE PHARMACIST IN POISONING

by G. M. Oderda, Pharm.D. and
M. S. Furth, M.D., M.P.H.

Maryland Poison Information Center
University of Maryland School of Pharmacy

With Poison Prevention week having passed in March one wonders whether the pharmacist has now taken down the posters and put away any poison prevention flyers or stickers for another year. Can the pharmacist be expected to "plug along" every week that comes down the pike with the same energetic manner throughout the year? Poison prevention efforts must be maintained throughout the year, and the pharmacist can be one of the primary, if not the primary, person at the interface between professional and the general public who can help in the prevention as well as the treatment of poisonings. The pharmacist is in a position to have on line, continuous, interaction with his community, every day, and therefore should be aware of the social and psychological dynamics of his community as well as its medical problems.

It is important that the Maryland Poison Information Center look at ways of supporting the pharmacist in his efforts. This not only includes general treatment information, as it has been doing, but also helping the community pharmacist to determine those factors that may increase the likelihood of poisoning in his community.

Children learn by examples set by their parents and this is an important factor in either increasing or decreasing the likelihood of poisoning. It has been shown that the child will mimic what he sees his mommy and daddy do. Many times the poison center has been involved with children taking medicines when they had a headache or tummyache because the child had seen his parent do the same thing under similar circumstances. Leaving medicines and other chemicals out for the curious child will only increase the chances of poisoning. Therefore, the pharmacist is in a position to educate the parents to have respect for drugs and how necessary it is to keep medicines locked up and out of the reach of children. In addition parents should be instructed not to call medicines candy and not to take their own medicines in front of children. But in addition the pharmacist must, so to speak, "practice what he preaches." It is therefore essential that the pharmacist make an inventory of his pharmacy looking at the display of products to determine whether he has placed these where curious hands may get ahold of them without either his knowledge or the parents. One must note that if a pharmacist places a product on a shelf that cannot be continuously scrutinized by him it is possible that the parent will consider this a non-dangerous substance. For example aspirin is com-

monly displayed at a great distance from the pharmacist and out of his sight.

The pharmacist carries the burden of knowing which products are used in his community and how frequently these are purchased. By keeping a weekly or monthly inventory of his stock he is able to evaluate the kinds and amount of use and where appropriate take measures to correct abuse and illicit use of many products. Parents, especially during the "cold and influenza season" are more likely to stock up on products to prevent the risk of running out. This can produce an extreme hazard in the household in which this is done. First, the availability of a large number of medicines will increase the risk for the toddler to find these and ingest large quantities. Secondly, and just as important, is the availability of these products to the emotionally troubled adolescent or adult. Many deaths occur each year from overdoses of aspirin; and the majority of these are suicides!

Products which may seem to be innocuous can be potentially lethal when sold in aerosol containers. Aerosols may be misused and abused by the experimenting teenager. Freon is the propellant in the majority of these aerosols. This product is known to sensitize the heart. By this action tachycardia is seen primarily and other serious abnormalities secondarily. In a large number of reported cases freon inhalation has led to death. Other volatile solvents, such as toluene, methanol and acetone containing products, are also currently being abused by adolescents.

The accidental dispensing of look alike products is also a problem. In some areas bottles of castor oil and spirits of camphor have been confused. Several cases have been reported to the Maryland Poison Information Center, one of which had the potential for being lethal since the 54 year old man began convulsing within minutes of mistakenly ingesting spirits of camphor. Keeping these look alikes, especially if labels seem similar, in different areas may prevent inadvertent mistaken buying. One must assure that the client is aware of what he is buying.

It is the responsibility of the pharmacist to: 1) Know where there is the possibility of risk because of large quantities of available medicines, 2) Educate the public as to the danger of buying large quantities of medicines, 3) Become knowledgeable of the possibility of toxicity from drugs (this is sometimes overlooked in the OTC preparations just because anyone can buy them!),

and 4) Be aware at the possible abuse of agents sold in the pharmacy and where appropriate report such possible abuse to the proper agency i.e. the FDA or Maryland State Board of Pharmacy.

In many areas the community pharmacist may feel ill at ease at becoming involved in taking any action, and too, he may feel that none of these factors apply to his community. It is important to be aware that, fortunately or unfortunately, most people basically follow the same pattern. Unless one becomes knowledgeable about the factors that increase risks of poisoning, it is unlikely one will be able to reduce these risks. Where the pharmacist has made efforts to prevent poisoning it will be necessary for him to continue his efforts. Where this has not been done, efforts must be made. The Maryland Poison Information Center is available to help the pharmacist with many of his needs in this area. A call to (301) 528-7701 may help you with information and suggestions on program planning. Communication with other pharmacists in the area and pooling of efforts and resources sometimes makes for stronger programs.

In summary 1) You as a pharmacist are in a position to act as the primary professional at the interface with the public in treating, and especially, in preventing poisonings. 2) You are aware of the "tempo" of your community and are in a position to evaluate the needs of

your community in areas of information and prevention, and develop programs to answer these needs (remember the Maryland Poison Information Center will help you). 3) You as the community pharmacist must not only set an example by the manner in which you display products, but in the manner in which you dispense drugs (i.e. OTC preparations may be dangerous and must be respected as such). 4) It is important for you to be aware of the drug abuse (or misuse) potential of products. This is especially true with those that most of the community feels are innocuous (e.g. hair sprays and other aerosols). 5) Your awareness and knowledge of the potential toxicity of products is necessary, and where this information is not immediately available within your pharmacy, it is essential that you be aware of the resources that you might tap for support for this information and help (again the Maryland Poison Information Center will aid you), and 6) Remember that you are a professional that can aid your community in the prevention of poisoning. This responsibility must not be abdicated.

In future articles we will attempt to look at social and psychological factors, as well as medical factors, which may place individuals and families at risk. Next month we will be looking at the repeater child and underlying factors which may promote this behavior as well as lead to further types of behavior in adolescents.

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Medicaid Information

MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE MEDICAL CARE PROGRAMS

Improved Medical Assistance Eligibility System

The Maryland Medical Assistance Program is now in the process of installing a new and improved eligibility system. Effective April 15, 1974 the system will be in operation in five counties and the remaining counties and Baltimore City will be phased in during the period between April 15, 1974 and June 1, 1974. By June 30, 1974 the entire State will be operating with the new system. This system will give the Program the capability of receiving the eligibility information from the local departments of Social Services via telephone on a daily basis, of updating the eligibility file daily and the capability to prepare and mail the plastic identification card within twenty-four hours. As this system becomes operational, the plastic identification card becomes the only valid proof of eligibility for a person to receive care or service that will be paid for by the Program. If you provide care or service to a person with a valid plastic identification card and record the correct patient name and identifying case number, you will be assured of prompt payment.

The temporary card has been the source of an excessive number of error bills, has created severe payment problems for you and has caused a refusal by the Department of Health, Education and Welfare to provide federal funds for bills that have been rejected by the computer payment system because the information on the bill does not agree with the information in the eligibility system. *Effective June 30, 1974 use of the Temporary Medical Assistance Card will be discontinued throughout the State. Temporary cards regardless of the expiration date should not be accepted after June 30, 1974. The Medical Assistance Program will only be responsible for payment for care or service provided to an individual possessing a valid plastic Medical Assistance Card.*

Procedures for processing bills rejected by the computer payment system will be revised effective July 1, 1974. Any rejected bill with a service date after June 30, 1974 will be checked to determine the cause. If the rejection was caused in processing by this Department, it will be corrected and the rejected bill reprocessed for payment. All other rejected bills will be returned to you with an error code entered in the upper left hand corner identifying the reason for the rejection. (For Example: Error Code 20 means that the individual is not listed on the Master Eligibility File). A complete list of the error codes is attached which will enable you to determine the reason why the bill was rejected. If you are able to correct the bill based on information available to you, make the necessary correction and return the *original* rejected bill for payment.

I am sincerely convinced that the effective implementation of this major system change will benefit you as the provider of medical care or service and the more than 400,000 individuals who annually receive medical care or service as a result of the Medical Assistance Program. To achieve the maximum benefits from this system change we need your continued cooperation and assistance.

If you have any comments or problems regarding this system change, feel free to contact me or Mr. Charles C. Putnam, Director, Medical Assistance Operations Administration.

—John J. Kent, Jr.

Assistant Secretary for Medical Care Programs

Medicaid Payment Error Codes

ERROR CODE	REASON FOR REJECTION OF BILL
20	Patient's Medical Assistance case number does not appear on Eligibility File. Check to verify that case number on the bill is correct.
21	Patient was not eligible for participation in the Medical Assistance Program at the time the care or service was provided.
24	Patient's name on the bill is not the same as the name in the Eligibility File.
25	Provider's account number on the bill does not match provider number assigned by the Program.
41	Patient's Medicare coverage status is pending. Submit bill to Medicare carrier when patient is assigned a Medicare claim number.
42	Patient has Medicare coverage. Submit bill to Medicare carrier.
51	Patient is enrolled in the East Baltimore pre-paid plan and should only receive emergency care. Submit bill to the pre-paid plan.
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Baltimore Metropolitan Pharmaceutical Association News Roundup

The Annual Meeting of the B.M.P.A. was held at the Kelly Memorial Building on November 15, 1973. President Paul Freiman called the meeting to order. The President reported on his activities noting that the Anne Arundel Pharmaceutical Association Convention Trip is not an MPhA sponsored trip.

The Treasurer's report was presented by Mr. Gruz. A motion to accept was made by Mr. Padussis and duly seconded by Mr. Quarles.

The Executive Director's report commented on the Employee Committee activities and the Court of Appeals 6 to 1 decision to uphold the lower court ruling in favor of Sav-A-Lot on the advertising issue. The Attorney General of Maryland is being consulted to see if an appeal to the U.S. Supreme Court would be indicated. The final decision will be made by the Attorney General's Office. Mr. Gruz noted that the APhA and MPhA Code of Ethics forbid advertising for services. The proposed Pharm.D. program of the School of Pharmacy was discussed. Fourteen schools now have such a program. The North Dakota case was reviewed.

Henry G. Seidman presented the Public Health Information Committee report noting the Junior League survey and recent prescription pricing consciousness by the public as a result of publicity in the media. Some form of price posting is probably inevitable.

The Employee Committee report was given by Dennis Klein. He noted the November 7 Employee Committee meeting at which it was decided to establish an employee pharmacist's newsletter. A pension plan is being looked into and a membership drive will be conducted. The committee requested MPhA to consider a possible exception of the APhA membership requirement for new members.

Melvin Rubin reported on the 1973 BMAP Installation Banquet noting that 392 people had attended. Mr. Rubin gave a Third Party Programs Committee report. Discussion is underway with Local 1199 regarding the issuing of blank prescriptions to its members. Mr. Rubin met with John Kent, the newly appointed Assistant Secretary of Health and Mental Hygiene for Medical Care Services.

Charles Spigelmire presented the public Relations Committee report. He noted the excellent work done by the Association in V.D. prevention and the cooperation with March of Dimes.

Mark Levi presented the Membership Committee report noting a slight gain of membership over last year's figures.

Ronald Lubman reported on the Mayor's Advisory Committee on Small Business of which he is a member. He noted plans for tightening the "Blue Laws" and a possible reward fund for businesses which were held up to apprehend criminals.

The Executive Committee report was presented by Joseph U. Dorsch who also presented the Nominating Committee report. The report of the Nominating Committee was accepted unanimously. The officers elected for 1974 are:

President	Melvin Rubin
President Elect	John Padousis
Vice Presidents—	
Ronald Lubman	Ralph T. Quarles
Stanley J. Yaffe	
Executive Director & Secretary.....	Nathan I. Gruz
Treasurer	Charles E. Spigelmire
Honorary President	Joseph J. Hugg
Chairman	Paul Freiman

Executive Committee

Terms to Expire 1975—

Douglas Kadan	Dennis Klein
Mark Levi	Samuel Lichter

Completing Terms Expiring 1974—

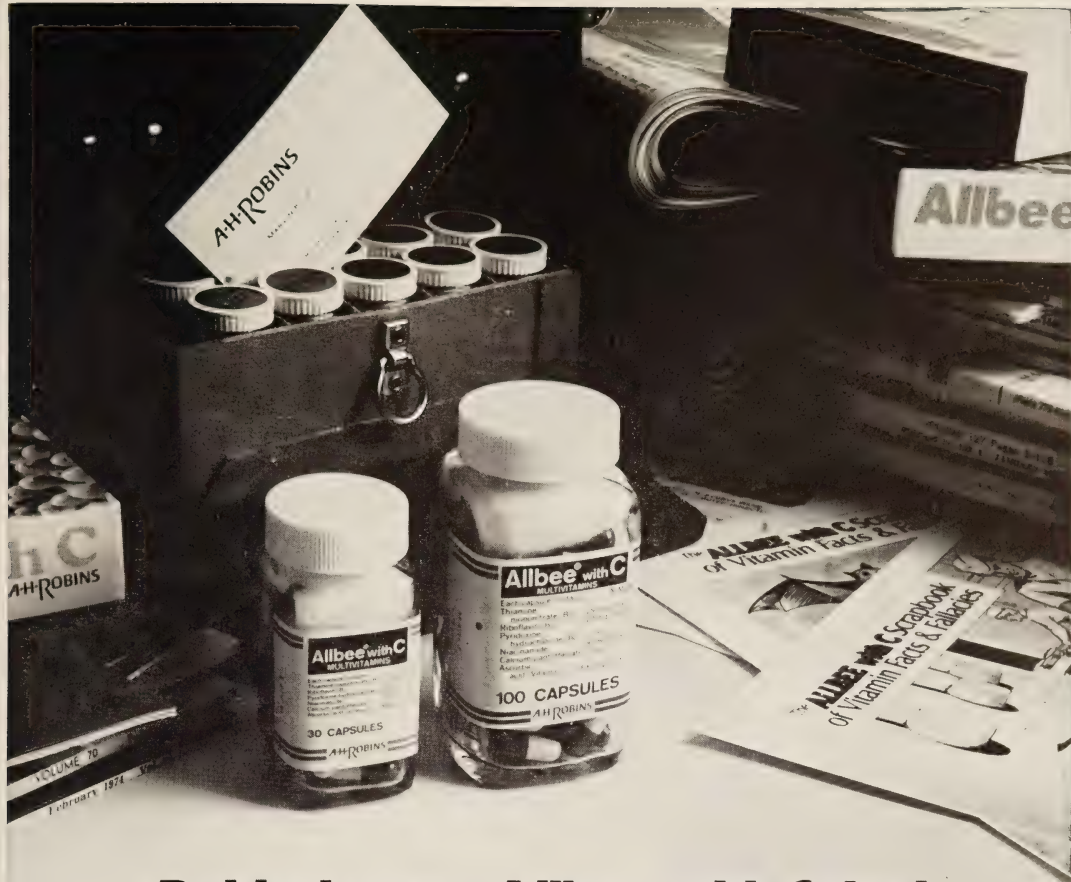
Barry E. Levin	Donald M. Kirson
Milton C. Sappe	Bernard White

Ronald Lubman moved to endorse the recommendation of the Mayor's Advisory Committee on Small Business regarding enforcement of the Blue Laws and curtailment of sales of non-exempt items by pharmacies on Sundays. The motion was defeated.

Dennis Klein moved that a new membership program be instituted which would allow new members to join the Association without joining APhA. The motion was referred to the Executive Committee.

Gerald Freedenberg moved for adjournment.

The Baltimore Metropolitan Pharmaceutical Association met on January 17 at the Quality Courts Motel in Pikesville. The program began with the presentation of a film on Cancer by the Baltimore County Unit of the American Cancer Society. The film, entitled "On With Your Life," starring Peter Graves and the Mission Impossible cast, was introduced by Albert Lichtman, a pharmacist and member of the Baltimore County Unit of the



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A.C.S. Dr. George Burke, physician and pharmacist who is educational director of the Unit, showed a series of x-ray films depicting various types of cancer cells. The film "On With Your Life" is available to pharmacists for showing before groups.

The evening speaker was John J. Kent, Jr., Assistant Secretary of Health and Mental Hygiene for Medical Care and former member of the Maryland House of Delegates. Mr. Kent reported on latest developments regarding Pharmacy in the Department of Medical Care Services.

The issuing of temporary eligibility cards, long a problem with prescription reimbursement, will be discontinued on July 1, 1974. It is expected that the department will operate on a 30-day payment cycle for processing prescription claims. Mr. Kent noted that a utilization review or surveillance program will play an important role in cost containment for the Medicaid program and therefore the possibility exists that pharmacist would be required to record National Drug Codes on prescription invoices.

At present there are 414,000 Medicaid recipients for which \$182 million has been allocated for fiscal year 1973-1974. Of this total, \$16.5 million has been allocated for prescription services which would pay for an estimated 3.7 million prescriptions. The total \$182 million budget represents an eleven million dollar increase over fiscal year 1972-1973 and the department is asking for another fifteen million dollar increase in next year's budget bringing the total budget to \$197 million.

Mr. Kent stated that as of December, 1973, payment had been made on error bills for claims through fiscal year 1971. By June, 1974, it is hoped that error bills for fiscal years 1972 and 1973 will be settled. Most of the error bills involve temporary cards. As Mr. Kent pointed out, it is possible for someone to receive a temporary card and then a few weeks later be found to be ineligible for medical care. Another problem source involves persons whose cards expire but who receive temporary cards by claiming that their original card was lost. Later it is found that these people were not eligible for recertification. Mr. Kent also noted that the request for a fee increase for pharmacist's invoices had been deleted from the 1974-1975 budget. He then answered questions from the audience.

Mr. Rubin opened the business portion of the meeting. He reported on his meeting with the Mayor's Advisory Committee on Small Business. The committee is sympathetic to the problems of pharmacists needing to remain open on Sundays and has decided to ask the legislature to create a study commission to investigate this problem.

Executive Director Nathan I. Gruz reported on the MPhA legislative program. Mr. Gruz noted that a network of six Health Maintenance Organizations (HMO's) coordinated by the Maryland Health Maintenance Committee would be in operation in the Baltimore area with a target date of June 1. Maryland Blue Cross will serve as the marketing organization.

Mr. Henry Seidman reported on the continuing education programs being offered by the School of Pharmacy and noted that there are ten states in which continuing education is either now mandatory or will be mandatory by 1975.

Charles Spigelmire concluded the reports by speaking on behalf of the Pharmacists' Political Action Committee (PHARMPAC).

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TAMPA News

The Traveler's Auxiliary of the Maryland Pharmaceutical Association met on April 11, 1974 for a dinner meeting. Minutes were read and approved followed by a report on Ladies' Night by C. Wilson Spilker. John Fagan was then called upon for a report on the annual Crab Feast which will be held at Don Brown's on August 8. William Kolb reported on the annual Tuesday Club outing scheduled for May 21 at the Hunt Valley Club.

Nathan Gruz, MPhA Executive Director, reported on the upcoming Convention at Downingtown Inn including convention activities and hotel accommodations.

Upper Bay Pharmaceutical Association

The Upper Bay Pharmaceutical Association has scheduled a meeting for May 5, 1974 at the Madison House in North East, Maryland. The meeting will feature a smorgasbord and all members, wives and guests are welcome.

The speaker will be Mr. J. F. Fader III, a pharmacist and attorney, who will speak on "Negligence and Product Selection Liability."

In The News . . .

Edward Sandel and S. Ben Friedman have been appointed to the Professional Advisory Committee-Office of Drug Control, Montgomery County. Martin Hauer is the Pharmacy Representative to the Montgomery County Health Planning Advisory Committee. Capt. Clarence L. Fortner, USPHS, has been elected to the Executive Committee of the APhA Section on Federal Pharmacy. Past MPhA President Milton A. (Mickey) Friedman of Harris Pharmacy won the Sylvania Display Contest and a trip around the world. Paul Reznick has been named to serve on the Committee on Government Affairs of the NARD. APhA Trustee-elect and President of the Academy of General Practice of Pharmacy Donald O. Fedder addressed the Senate Subcommittee on Juvenile Delinquency of the Senate Judiciary Committee. Mr. Fedder is one of two pharmacist members of the FDA's Controlled Substances Advisory Committee. Bernard B. Lachman, Past President of MPhA, has been appointed to the Policy Committee on Public Affairs of the APhA. Samuel Lichter is a member of a National Task Force which will develop guidelines for the Operation of Methadone Treatment Programs.

Maryland Society of Hospital Pharmacists

The Maryland Society of Hospital Pharmacists met on April 18 at St. Agnes Hospital. Guest speaker was Dr. William J. Kinnard, Dean of the University of Maryland School of Pharmacy. Dr. Kinnard spoke on the Doctor of Pharmacy program.

During the business meeting which followed, members approved several constitution and by-laws amendments relating to the term of office of the Treasurer and to expenditures. Dr. Peter P. Lamy announced that the W. Arthur Purdum Award Selection Committee had chosen Mr. Henry J. Derewicz to receive this year's award. Mr. Derewicz is Director of Pharmacy at the Johns Hopkins Hospital. Robert E. Snyder reviewed the 1974 legislative session.

Henry Derewicz Selected For 1974 Purdum Award

Henry J. Derewicz, Director of the Department of Pharmaceutical Services at the Johns Hopkins Hospital, has been selected as the 1974 recipient of the W. Arthur Purdum Award. The award, announced by Dr. Peter P. Lamy, selection committee chairman, is presented on an annual basis to the person who has made the most significant or sustained contribution to hospital pharmacy in Maryland. The selection committee consists of past recipients of the award.

Mr. Derewicz has served on numerous committees of the American Society of Hospital Pharmacists and the Maryland Society of Hospital Pharmacists. He presently serves as MSHP representative to the Professional Practices Committee of the Maryland Hospital Association and is chairman of the MSHP Institutional Practices

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Committee. He is Pharmacy Representative on the Industry Advisory Board of the Maryland Health Services Cost Review Commission, was chairman of the Task Force on Supportive Pharmacy Personnel and was MSHP representative to the committee which developed the "Guidelines for Pharmacy Service in Maryland Hospitals." He also serves on the U.S.P. Reference Panel on Hospital Practice.

Mr. Derewicz obtained the B.S. degree in Pharmacy from the University of Pittsburgh and the M.S. degree from the University of Michigan. He has presented more than thirty scientific papers at national meetings and has published more than twenty professional articles in pharmacy journals.

Mr. Derewicz is a Past President of the Louisiana Society of Hospital Pharmacists and holds membership in the American Pharmaceutical Association, the American Society of Hospital Pharmacists and the Maryland Society of Hospital Pharmacists.

Previous Purdum Award recipients have been Sydney L. Burgee, Jr., Paul J. LeSage, Mary W. Connelly, and Peter P. Lamy, Ph.D. Mr. Derewicz will receive the award at the Ninth Annual Hospital Pharmacy Seminar of the Maryland Society of Hospital Pharmacists, June 28-30 in Williamsburg, Virginia.

RADIATION THERAPY — Certain bone tumors have been shown curable by radiation therapy without the necessity of surgical amputation, reports the National Institutes of Health. The most promising new studies have concerned Ewing's sarcoma, a usually fatal form of bone cancer occurring among children and young adults.

Obituaries . . .

Alton B. Welch

Alton B. Welch, 69, died on April 1, 1974. Mr. Welch was a partner in Gilbert's Pharmacy in Annapolis for more than 40 years.

Poliomyelitis Immunization Alert

Recent data released from the United States Immunization Survey indicates that the level of immunization against polio in this country is declining. Only 65.9% of the children 1 through 4 years old have had the recommended number doses of polio (3 salk or 3 oral). The reported immunization level is even lower in urban poverty areas. In addition, many of the older children have had only a series of salk vaccine without the more permanent protection afforded by oral vaccine.

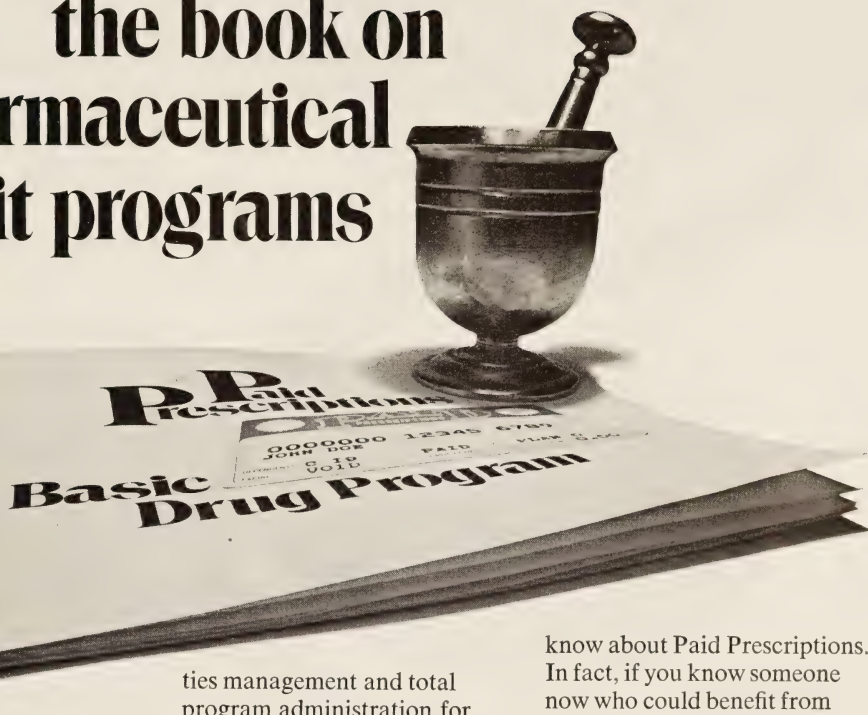
Data collected through the Maryland Infant Immunization Surveillance System also shows a decline in the number children who have completed the recommended three dose series of oral polio vaccine. Only 66% of the children age 1 through 2 born during the second quarter of 1969 in Maryland have had the recommended three doses of oral polio vaccine. In some areas of the state there is an even lower percentage of the children that are considered adequately immunized against polio.

To prevent a further decline in polio immunization levels, The Steering Committee on Immunization Practices of the Medical and Chirurgical Faculty and Maryland Department of Health and Mental Hygiene recommends:

1. A review of the polio immunization records of each child to assure adequate immunization against polio.
2. Children who have never had polio vaccine or received only salk vaccine should be given a series of trivalent oral polio vaccine (3 doses — two doses separated by 6 to 8 weeks and a third dose 12 months later.)
3. Children who received the basic oral polio immunization series (3 doses) and have never received a booster dose of trivalent oral polio should be recalled for a trivalent booster. If it is uncertain that a booster was given, the child should be administered a dose of trivalent polio.
4. In areas where the immunization levels are known to be inadequate, mass polio booster programs should be conducted among children ages 1 through 12 to assure maximum immunity levels.

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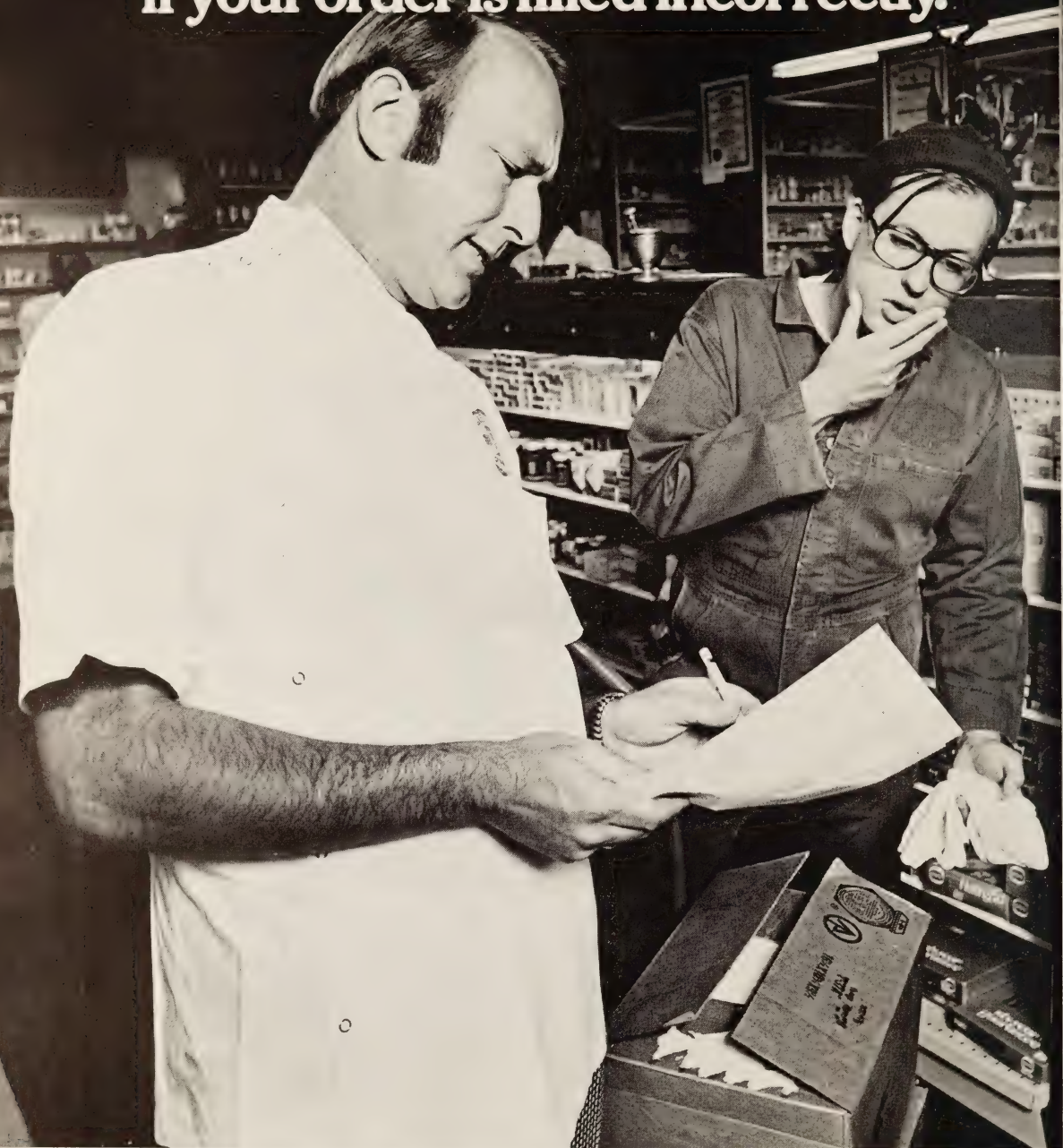
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WELCOME GRADUATES!

Do you remember what it was like when you finished pharmacy school and started in your first position as a pharmacist? If you were like me you had mixed emotions about it. You were glad that you had finished school and you were eager to start working and yet you were also apprehensive because there were so many things you didn't know that you wanted to learn right away, especially if you started this position in totally new surroundings.

This is when you really began to learn the practical aspects of Pharmacy—the things that you weren't taught in pharmacy school—such as: how to remove a foreign object from someone's eye, how to detect ringworm, what cough syrup would you recommend for a seven-month old child. You also had to become familiar with many items and drug products you had never seen before. You soon learned the difference between Midol and Nytol and between Humphrey's No. 11 and Humphrey's No. 19.

If you were fortunate like I was, you were "broken in" by someone who was a stickler for detail—a stern disciplinarian who wanted everything done just right. During this time, you might have resented this somewhat but afterwards you realized that this individual did you a favor. He made sure that you started off your profession on a sound footing.

Today's graduate is in a totally different situation. First of all, he or she has had more schooling than the average practitioner and most probably has had more practical experience than the graduate of ten or fifteen years ago had when he graduated. Certainly his knowledge in the clinical area is greater and he has had a better background in pharmacology. Yet this individual still has much to learn even after he can call himself a registered pharmacist because the practice of pharmacy is an ongoing educational experience and this experience cannot be obtained in the classroom.

Hopefully there will be someone there to guide the new graduate and to get the new graduate started off in his or her profession on a sound footing. And hopefully this graduate will be able to look back some day with gratitude towards the person who "broke him in."

Welcome to the Profession, graduates!

—Normand A. Pelissier

PHARMACY CALENDAR

June 23-27—92nd Annual Convention, Maryland Pharmaceutical Association, Downingtown Inn, Downingtown, Pa.

June 28-30—Ninth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Williamsburg, Virginia.

July 14-18—National Convention, Alpha Zeta Omega Pharmaceutical Fraternity, International Hotel, Freeport, Bahamas.

August 3-4—National Catholic Pharmacists' Guild Twelfth Anniversary Convention, Midland Hotel, Chicago, Illinois.

August 3-9—American Pharmaceutical Association Annual Meeting, Chicago.

September 29-October 4—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas.

1975

January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

Faked Narcotic Prescriptions

Pharmacists are urged to be on the alert for fake telephoned prescriptions where the caller prescribes two prescriptions—one narcotic and one non-narcotic, often an antibiotic. The prescriptions are then called for. Be alert for such combinations written on Rx blanks from physicians outside the area and for patients outside the area. Confirm any suspicious prescriptions with the prescriber, making sure the telephone number is listed under the prescriber's name in the directory and not a telephone booth.

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NATHAN I. GRUZ, *Executive Director*

March 14, 1974

- Approved President's report which commended Legislative Committee and Executive Director on their efforts regarding legislative matters. The President stated that he had appointed Irving Kamenetz and Dr. Peter P. Lamy as representatives for Peer Review with the Maryland Foundation for Health Care which is sponsored by the State Medical Society. In response to a telegram sent to the Governor, a letter was received from him stating that the adverse fiscal impact of the energy crisis would probably prevent an increase in the Medicaid fee but he was asking Dr. Neil Solomon, Secretary of Health and Mental Hygiene, to give this a high priority in his next budget request.
- Approved the Treasurer's report. It was noted that the bill for legal services from the Association's legal counsel for the *amicus* participation by MPhA in the Sav-A-Lot case was paid.
- Heard the Chairman of the Board of Trustees report. The Chairman reviewed some of the highlights of the legislative meeting in Annapolis and concluded that the results were extremely beneficial due to MPhA efforts with the legislature. Chairman Lachman announced that he had been appointed to the Policy Committee on Public Affairs of the APhA.
- The Executive Director reported on his activities in Annapolis. Testimony was given on a number of bills and conferences were held with many legislators. Other activities included: address to the Upper Bay Pharmaceutical Association; the Teamster Local No. 355 Prescription Plan; Baltimore Drug Exchange; testimony at hearing on regulations for physician's assistants; conference with Professional Relations Director of Read's Inc.; conferences and meetings of the Maryland Health Maintenance Committee; visit to Downingtown Inn in preparation for Convention; Maryland Board of Pharmacy meetings, Peer Review Committee; Pharmaceutical Services Foundation Board meeting and address to the Prince Georges-Montgomery County Pharmaceutical Association. Attended, with the President, meeting of COPEs in Washington on the matter of pharmacy ownership legislation.
- Also attended BMPA meetings; TAMPA; Maryland Society of Association Executives (Member of Board of Directors); meeting in Annapolis with Governor's aide; attendance at Sunday meeting of Eastern Shore Pharmaceutical Society; BMPA Banquet; Tripartite Committee; Israel trip which combined outstanding programs along with the tour. Meetings were held with the Dean of the Hebrew University School of Pharmacy and the Director at Hadassah Hebrew University Medical Center and addresses by governmental officials were highlights.
- Approved Membership Committee report.
- Approved Public Relations Committee report noting publicity on Poison Prevention. The March of Dimes drug information message by Dean Kinnard received numerous responses.
- Heard Convention Committee report. The Chairman reviewed room rates and registration fees.
- Approved proposal for Hawaii trip and authorized for January 14, 1975.
- Approved Legislative Committee report noting various bills of importance to Pharmacy and testimony given by Executive Director and Legislative Committee members.
- Heard Board of Pharmacy report noting new regulations regarding controlled substances. Discussed bill to place exempt narcotics on prescription. The National Association of Boards of Pharmacy has recommended that those desirous of reciprocity after more than five years out of pharmacy must take a practical and law exam. Mr. Yaffe is the Program Chairman for the October meeting of the District 2 Boards and Colleges of Pharmacy.
- Approved motion to request a meeting with the Secretary of Health regarding pharmacy services in institutions.
- Heard School of Pharmacy report. The Dean reported on the Open House at the School of Pharmacy. The Board of Regents has approved the Pharm.D. (Doctor of Pharmacy) Program. There is a fifty per cent increase in applications.
- Approved Prescription Insurance Plans Committee report noting that the Medicaid subcommittee was holding meetings and that attention was being given to problems regarding freedom of choice in insurance programs through our legal counsel.

New Members

The following were approved for membership at the March 14, 1974 meeting of the Board of Trustees of the Maryland Pharmaceutical Association:

Arnold E. Clayton, Randallstown, University of Maryland Hospital

James E. Cannon, Salisbury, Drug Fair

Ronald Foster, Cleveland Ohio, Drug Fair

Ronald Hicks, Salisbury, Ames Plaza Drugs

Marvin H. Jones, Landover, Drug Fair

Pamela K. Lindsay, Baltimore, Class of '74, School of Pharmacy

Louis Leibowitz, Baltimore, Drug Fair

Betty Jean Hill-Neal, Washington, D.C., Drug Fair

Gloria D. Randall, Suitland, Ames Plaza Drugs

Vincent J. Regementi, Severna Park, Kitchin Drugs, Inc.

Richard J. Schneider, Ocean City, Ames Plaza Drugs

Hal J. Weinstock, Beltsville, Md., Class of '74, School of Pharmacy

Leonard L. Winkleman, Berlin, Md., Ames Plaza Drugs

ceutical Association and the University of Maryland School of Pharmacy, the program proved to be of interest to a large audience of both men and women. Albert Lichtman, member of MPhA and of the Baltimore County Unit of the ACS, introduced the speakers.

Among the presentations were "The Effects of Anti-Cancer Drugs" by Nicholas Bachur, M.D., Ph.D., Head, Biochemistry, Baltimore Cancer Research Institute; "Services Available to the Cancer Patient Through the American Cancer Society" by Philip H. Pushkin, D.D.S., Chief, Public Health Dentistry, Baltimore County Health Department and President, Baltimore County Unit, American Cancer Society; "Counseling the Post-Mastectomy Patient" by Samuel J. Abrams, M.D., General Surgeon, Baltimore County General Hospital and Board Member of the Baltimore County Unit, A.C.S.; and "Rehabilitation of the Ostomy Patient" by Nan Tucker, Baltimore Ostomy Association.

MPhA Co-sponsors Program on Cancer

A program entitled "The Pharmacist's Role in Cancer" was presented on May 9, 1974 at the Cross Keys Inn in Baltimore. Co-sponsored by the Maryland Pharmaceutical Association, the Baltimore County Unit of the American Cancer Society, the Baltimore Metropolitan Pharma-

The program also included a film presentation on "Breast Cancer: Where We Are," "Cancer Quiz" by George J. Burke, M.D., S.A.C.S., Biologist, South Baltimore General Hospital and Vice President of the Baltimore County Unit, A.C.S.; and a panel discussion moderated by Henry G. Seidman, Director of Continuing Education, University of Maryland School of Pharmacy.

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CANES

Geriatric Drug Therapy*

by

PETER P. LAMY, PH.D.

Professor

and

Director, Institutional Pharmacy Programs

University of Maryland

University of Maryland Hospital/School of Pharmacy

Changes frequently occur with advancing age which may lead to a series of morbid conditions or diseases. This can give rise to a cumulative or correlated pathological state which has been called poly- or multimorbidity. This is a combination of primary disease of old age, for example arteriosclerosis, of aging diseases, such as diabetes mellitus, and diseases with no causal relationship to old age, such as appendicitis.

Elderly patients often receive four to five drugs, and as many as ten to thirteen drugs per patient have actually been reported. There is, therefore, an urgent need for a better understanding of drug action in the elderly. The elderly patient may be faced with a considerable decrease in reserve functional capacity, energy metabolism and enzymatic processes. The risk of drug intoxication is probably enhanced in the elderly and thus, care ought to be exercised in the drug therapy of the elderly.

In the elderly, the sensitivity of various target organs may be altered, and a higher incidence and greater severity of side effects, adverse effects and toxic effects of drugs have been reported in the literature. Thus, a number of drugs must be used with caution in the elderly (Table I). Compilation of these drugs show that there are a number of drugs which must be used with particular caution in those patients with reduced renal function. The elderly, in particular, may suffer from an intrinsic reduced renal function which may not be uncovered by normal laboratory values.

Sedatives can cause stupor, confusion and sometimes over-excitement, and as they are used with relative frequency in the elderly, can present therapeutic problems. Patients aged 65 years and older cannot tolerate as high a mean dose of levodopa as can adult patients. Intestinal bleeding, caused by aspirin and phenylbutazone, may be more serious in the elderly. The heart of the elderly patient will be less responsive to cardiac stimulants while the brain becomes more sensitive to depressants, but less sensitive to stimulants.

*Presented at Samford University, Birmingham, Alabama, Annual Spring Seminar, April 26, 1973, THE GERIATRIC PATIENT. Reprinted from *Clinical Medicine* with permission of the author.

Dedicated to the memory of the late Rudolf Lamy, M.D., Fellow of the American Geriatrics Society.

Table 1

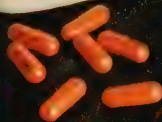
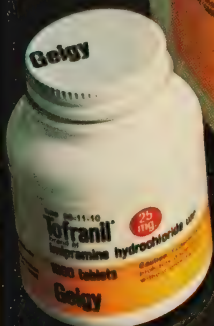
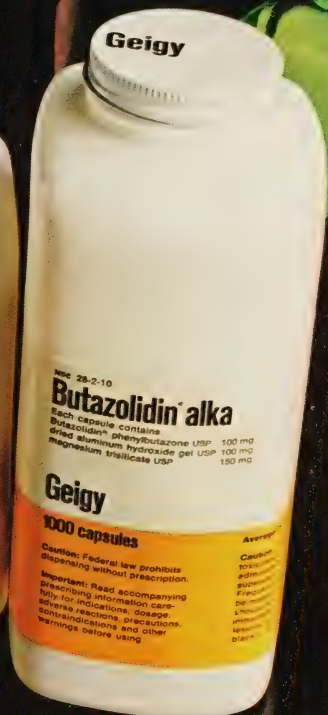
Some Drugs To Be Used With Caution In The Elderly

Amitriptyline	*Kanamycin
Aspirin	
Atropine (and related compounds)	Liothyronine Sodium
Bacitracin	Methyldopa
Barbiturates	Mineral Oil (prolonged use)
Bendroflumethiazide	Morphine
Benthiazide	
Bishydroxycoumarin	*Nalidixic Acid
Bromides	*Neomycin
	Nialamide
Chlorazepate Dipotassium	Nitrate (long-acting)
Chlordiazepoxide HCl	Nortriptyline
Chlorothiazide	
Chlorpromazine HCl	Oxyphenbutazone
Chlorthalidone	
Codeine	Pargyline HCl
Colistin	Pentazocine HCl
Cortisone (and related products)	Phenothiazines
Cyclothiazide	Phenylbutazone
	Phenelzine
Desipramine	Pipradol HCl
Diazepam	Polymyxin B
*Digitalis	Propranolol
*Digitoxin	Protriptyline
*Digoxin	
	Rauwolfia
Epinephrine	Reserpine
Ethacrynic Acid	
Ethchlorvynol	Salicylates
	Streptomycin
	Sulfonamides
Flurazepam HCl	Sulfonylureas
Furosemide	
	Testosterone Prep.
Gentamycin	Tetracyclines
Guanethidine	Thiazides
	Tranlycypamine
Haloperidol	Triamterene
†Heparin	Trichlormethiazide
Histamine	Trihexyphenidyl
Hydrochlorothiazide	
Hydrophilic Colloids	Warfarin Sodium
Hydralazine	
Imipramine	
Indomethacin	
Isocarboxazid	

*If renal function is diminished

†Women over 60 years of age in particular

Legend drugs in their own time



The Fate of Drugs in the Elderly

With increasing age, there is an increasingly divergent response to drug treatment. The capacity of the elderly to metabolize and excrete drugs may be impaired. This, in turn, can lead to accumulation and to cumulative toxicity.

Untoward drug effects, be they side effects or adverse effects, are also more frequently encountered in the elderly. It has been suggested that this might simply be a cumulative effect, i.e., that the more drugs a patient has consumed during his life time, the more susceptible he might be to these untoward effects. In patients 60-70 years of age, adverse drug reactions occur at twice the rate of their occurrence in patients 30-40 years of age.

The frequency of adverse drug reactions in those 70-79 years of age is seven times greater than in those 20-29 years of age. Many factors involved with the absorption, distribution, metabolism and excretion of drugs may be responsible for these changes.

(1) Absorption

The majority of drugs are administered orally, as a solid dosage form such as tablets and capsules. To be effective, there must be effective absorption, but it has been suggested that drug absorption may well be delayed or impaired in the elderly.

Poor absorption may be due to the fact that the acidity of the gastric juice decreases with increasing age. Hypochlorhydria and achlorhydria, often found in pernicious anemia, has been reported to occur in the elderly at a rate 10 times that in the younger age groups. This may affect the solubility of drugs such as the salicylates or barbiturates, and thus affect the rate and extent of absorption.

The stomach emptying rate can also influence a drug's absorption. The onset of the therapeutic effect of those drugs absorbed mainly from the intestine may depend on the rate with which a drug is expelled from the stomach into the duodenum. There is said to be a slow-wave electrical activity which might be the controlling mechanism for stomach emptying. It is reasonable to assume that this intrinsic electrical activity may well slow down in the elderly, thus contributing to a slower emptying rate of the stomach. It has also been shown that the stomach emptying rate, and thus the onset of therapeutic action, differs in patient, depending on whether they are ambulatory or bedridden. There is, further, a reduction in intestinal blood flow which could delay or reduce drug absorption. Additionally, the number of absorbing cells is decreased, leading to a reduction in absorbing surface.

(2) Distribution

Circulatory disturbances may affect transportation of nutrients and drugs. Increase in extracellular fluids, decrease in total body fluids, decrease in protein binding, changes in apparent volume of distribution (which, of course, differs with different drugs) and impairment of the mesenteric circulation may all affect the distribution of drugs throughout the body.

(3) Metabolism

The activities of several enzymes decrease with increasing age, due either to a decrease in the rate of synthesis or a change in enzyme structure. For example, plasma cholinesterase levels are much lower in older than in younger persons.

The capacity to metabolize drugs may also be impaired. Conflicting reports have appeared as to the possibility of reduced activity of the liver. While it has been said that in those not afflicted by disease the liver will continue to function fully, it has also been reported that very few of the elderly have retained an apparently normal liver function. It is highly probable that medications are not as efficiently detoxified in the liver of the aged as in the younger age groups.

The mean plasma half-life values of antipyrine were 45% greater and those of phenylbutazone 29% greater in elderly patients than in young controls, indicating a reduction in the rate of metabolism in the elderly.

(4) Excretion

Glomerular filtration rate, renal flow, and tubular secretion capacity are reduced below normal levels. There is a decrease in kidney size, glomeruli and tubule cells. Only a few individuals advancing past the sixth decade remain free of renal pathology, which can further reduce renal function severely.

Water imbalance is often encountered and the general metabolism of the elderly may be in imbalance due to loss of ascorbic acid, calcium, potassium, sodium and protein.

Constipation, often due to reduced peristaltic activity, and diarrhea may also lead to changing elimination patterns and thus, different drug actions, especially with those drugs which exhibit entero-hepatic circulation.

Therapeutic Principles of Drug Administration to the Elderly

The cautionary statement that "In the elderly, it is recommended that the dosage be limited to the smallest effective amount . . ." or similar statements are found in many package inserts. Drugs should probably be administered according to the principle that enough drug is given to achieve the desired therapeutic response with minimal untoward effects. Stated in other words, the usual procedure with most drugs for the elderly is to prescribe a medium dosage which is probably adequate for 50% of the patients, too low for 25% and too high for the other 25%. This recommendation suffers from the fact that, as far as elderly patients are concerned, there is really no such thing as a medium dose. Recommended dosage levels can and should only be used as a rough guide, to be used as a starting point in the search for applicable dose for a particular patient. In general, in the elderly, smaller dose levels are required to achieve a desired therapeutic effect.

When dealing with drugs whose action is purely substitutive, such as vitamins or trace elements, the dosage levels should probably remain the same, regardless of age.

This would also hold true for such drugs as chemotherapeutic agents and antibiotics, as their intended target organisms are bacteria and these are not affected by the aging process of the human host. Thus, all drugs intended to treat exogenous diseases should be given at the same dose levels in the elderly as in younger patients.

However, this principle applies only to the intended therapeutic effect, as untoward effects may well occur more frequently in the elderly as these dosage levels.

Comments on Specific Categories of Drugs

(1) Analgesics

An evaluation of analgesic effectiveness in the elderly is made difficult by the fact that they tend to respond to placebos more frequently than do younger patients. Analgesics with anticholinergic properties should be avoided in patients with prostatic hypertrophy, commonly encountered with older patients. Narcotic analgesics may produce coma and interfere with sphincter action, particularly with the sphincter of oddi. This is seen in patients with pancreatitis. Narcotic analgesics may also cause dehydration and respiratory depression.

Codeine should be avoided due to its constipating properties and, if not given in therapeutically adjusted doses, it may cause dizziness and drowsiness. The use of morphine should be restricted. If the necessity for its use should arise, its dosage should be two-thirds of the adult dose.

While it has been suggested that the dose should be further decreased for every year past the age of 60, no specific recommendations have been made. The major disadvantage of morphine is its ability to depress respiration. While the use of meperidine has been advocated in that case, the *Medical Letter* states very emphatically that "... there was no proof then and there is no proof now that meperidine causes less respiratory depression than morphine ...".

In general, the elderly exhibit an increased sensitivity to narcotics; similar to that exhibited by the very young. In addition, the margin of safety between effective and lethal doses is narrowed in the elderly.

Among the non-narcotic analgesics, aspirin has remained the most popular one, and a higher degree of pain relief in the elderly has been ascribed to pentazocine hydrochloride.

(2) Antibacterial Agents

The literature indicates that the half-life of antibiotics with an aminoglycoside group may be twice as long for older persons than for younger ones. Thus, while it is not necessarily recommended that the dose for antibiotics in the elderly be lowered, adverse effects may be more frequently encountered. Penicillin often may cause urticaria and desquamation resembling that of scarlet fever. The broad-spectrum antibiotics, particularly the tetracyclines, can cause severe pruritis ani or vulvae, which tend to persist for prolonged periods of time. Prophylactic therapy with antibacterials, including the antibiotics, should be discouraged, as should be any prolonged use of antibiotics. Only when absolutely indicated, as in

the case of cellulitis, should prolonged use of antibiotics be considered.

While all drugs which are eliminated via the kidney should be used with caution in patients with impaired kidney function (and elderly patients frequently are afflicted by this), some drugs are formulated to be slowly eliminated by the kidneys. Among those are the long-acting sulfa drugs, which may have the tendency to accumulate, possibly leading to gastrointestinal disturbances.

Mild urinary obstruction combined with urinary tract infection may be treated with such drugs as the mandelates. In that case, it must be ascertained that the patient's urinary pH is acid. Long term therapy with nitrofurantoin and nalidixic acid may be associated with adverse side effects, particularly in the elderly.

(3) Anticoagulants

The use of anticoagulants such as bishydroxycoumarin and warfarin should be carefully considered if elderly patients with renal impairment are to be treated. Renal impairment may cause these drugs to be retained for prolonged periods of time and, thus, their action may be intensified. Anticoagulant therapy is particularly risky in patients with a vitamin K deficiency, frequently found in elderly patients.

These considerations, on the other hand, are not significant if the patient's dosage is carefully controlled based on prothrombin times. Once the patient is so maintained, acute renal insults resulting in prolongation of prothrombin time are actually of greater importance clinically.

Chlorpromazine may cause hypoprothrombinemia which does not improve with vitamin K therapy.

It has been recommended that heparin be used with great caution in elderly female patients, as its use increases the risk of bleeding in women over 60 years of age more than three times as compared to women under 60 years of age.

While the general effectiveness of anticoagulant therapy is still being debated, the geriatric literature has suggested that the use of anticoagulants in patients over 65 years of age for prevention of myocardial infarction is of no value. However, there is some feeling that heparin may be of some value in the prevention of pulmonary embolism in elderly patients.

(4) Antidepressants

Although use of monoamine oxidase inhibitors, in general, should be discouraged, they seem to be the drugs of choice in reactive depression, while the imino-benzene derivatives are selected primarily for endogenous depression. The tricyclic antidepressants, such as imipramine and amitriptyline, share many of the side effects encountered with the phenothiazines. Imipramine is probably less effective in older persons, while the action of amitriptyline does not seem to be affected by the age of the patient.

The elderly exhibit apparently a high degree of susceptibility to adverse reactions due to a number of antidepressants, among them amitriptyline, desipramine,

imipramine, isocarboxazid, nialimide, nortriptyline, phenelzine, protriptyline and tranylcypamine. Lower than usual dosage levels are, therefore, indicated in elderly patients.

(5) *Anti-Epileptics*

The hydantoins as well as phenobarbital are probably used most often in the elderly. A question may be raised concerning the suggestion that long-term use of the hydantoins be supplemented by oral administration of folic acid to prevent megaloblastic anemia. Possibly, folic acid administration may decrease serum hydantoin levels, precipitating a patient seizure.

(6) *Antihypertensives*

The value of treatment of hypertension in the elderly is not well established. Although the point is debatable, it does not seem particularly advantageous to employ drugs in order to treat hypertension due to arteriosclerosis (high systolic and normal or slightly elevated diastolic pressures). The use of antihypertensives in small doses should be considered in patients suffering from severe hypertension, though.

In general, antihypertensive agents such as the thiazides should be considered before the more potent agents are prescribed. Rauwolfia produces many undesirable effects in the elderly, including peptic ulcer, increased parasympathetic activity, bradycardia, decreased atrio-ventricular conduction, increased bronchial restriction and increased fatigue.

The thiazides may lead to potassium depletion, which, in turn, may lead to more frequent appearance of cardiac arrhythmias, particularly if the patient is digitalized. Hydralazine increases the heart rate, methyl dopa and guanethidine could seriously affect cerebral and coronary circulation, and pargyline, if used, should be started at a reduced dose. Phenytoin often gives relief in post-cerebrovascular seizures.

(7) *Anti-Inflammatory Agents*

Aspirin remains the drug of choice for treatment of arthritis. Cortisone and related products may cause peptic ulcer, accelerate osteoporosis, may increase the severity of diabetes mellitus or may stimulate latent diabetes mellitus.

Phenylbutazone and oxyphenbutazone can cause aplastic anemia, and phenylbutazone therapy should be discontinued as soon as possible after seven days because of the exceedingly high risk of fatal reactions.

Indomethacin may be responsible for psychic disorders, gastrointestinal blood losses and diarrhea. The incidence of side effects with phenylbutazone appears to increase with increasing age.

(8) *Cardiac Glycosides*

Digitalis preparations are frequently used, misused and abused in the elderly. Of the digitalis preparations,

digoxin is probably most valuable in the treatment of congestive heart failure or recent atrial arrhythmia with rapid ventricular response. The incidence of digitalis toxicity is high and accumulation of digoxin is especially common in the elderly. These patients tend to develop anorexia, nausea, vomiting and diarrhea. Arrhythmia may present 30% of all cases concurrently with other signs, but the frequently described "muddy" vision seems to be very rare.

(9) *Diagnostic Agents*

The use of histamine for the diagnosis of pheochromocytoma in the elderly is dangerous. Consideration should be given that the skin of the elderly has undergone considerable changes and it is not unreasonable to suspect that some diagnostic agents may not respond as anticipated.

(10) *Diuretics*

The diuretics are frequently used when not needed. The long and continued use of oral diuretics may lead to electrolyte depletion, especially of potassium, which may result in lethargy, dehydration and constipation. It may also result in potentiation of the digitalis effect or actual digitalis toxicity. Thiazides elevate blood urea nitrogen. Long-acting diuretics, such as chlorthalidone, may cause nocturnal incontinence. The thiazides may cause sodium excretion and potassium depletion. They may also precipitate gout or diabetes in predisposed patients. Furosemide and ethacrynic acid both produce shorter and more intense actions than do the thiazides, both may produce gout and neither is as effective in the elderly as in the young. Triamterene has a weaker action than do the thiazides and may cause potassium retention. Spironolactone also promotes potassium retention and thus, may cause hyperkalemia, especially in elderly patients with reduced renal function.

Triamterene and its combinations may also cause a higher incidence of hyperkalemia in older patients than in young ones.

The thiazide diuretics may precipitate myocardial infarction or cerebral thrombosis in patients with advanced arteriosclerosis. Therefore, they should be used in full dose only if absolutely necessary.

(11) *Hormones*

It has been recommended that liothyronine, used in the treatment of simple goiter, be used in a lower starting dose in elderly patients.

(12) *Hypoglycemic Agents*

The elderly show an increased susceptibility to hypoglycemic agents. The sulfonylureas, most frequently used in the elderly, must be re-evaluated in light of recent developments. Phenylbutazone and sulfonamides can increase the half-life of the sulfonylureas.

(13) *Laxatives*

Irritant laxatives may cause serious electrolyte imbalance. Mineral oil, used over a prolonged period of time, may cause loss of the fat-soluble vitamins. It has also been implicated in lipid pneumonia. The hydrophilic colloids may cause an intestinal obstruction.

(14) *Sedatives*

Geriatric sedation is difficult, and sedatives must be used with caution. Yet, they are frequently prescribed, particularly for elderly women who have, in general, more sleep problems than men. Sedatives which depress cardiac or respiratory functions should not be given to patients with arteriosclerotic cerebral vessels or patients with chronic obstructive pulmonary disease. Elderly patients may suffer from insomnia due to a full bladder which may be painful. In this case, this should be treated with analgesics, rather than sedatives. Sedatives, as a matter of fact, may aggravate the retention and increase restlessness.

While sodium butabarbital has been found useful in aged psychiatric patients and amobarbital in acute anxiety attacks, barbiturates are generally contraindicated. They may be responsible for severe and unexpected drug toxicity. Chemopsychotherapeutic agents should be used with caution in patients with pain, fever, thirst, electrolyte imbalance and other predisposing factors to drug toxicity.

The literature describes chloral hydrate, used in the elderly, as quickly effective and rapidly eliminated. However, this seems to be directly opposed to the suggestion that the liver function of the elderly may be impaired, as this drug is metabolized by the liver. Chloral hydrate is a potential cardio-inhibitor and a gastric irritant.

Paraldehyde is rapid, safe and effective, although quite unpalatable. It has no apparent deleterious effects on the cardiovascular or respiratory systems.

Bromides, opiates, hyoscine and trihexphenidyl may have an acute or cumulative effect. Glutethimide still seems to be used, although it has a dependency liability and the mortality rate of patients taking twenty tablets or more has been 45%. Meprobamate, which was prescribed almost 4 million times in 1966, also may cause the geriatric patient to be increasingly dependent if administered frequently.

In many instances, administration of whiskey or a glass of wine at bedtime will produce better results than any other method of sedation. Of course, the patient should then not receive hypnotics, as alcohol potentiates the action of tranquilizers and barbiturates.

(15) *Tranquilizers*

The tranquilizers are not indicated in insomnia due to pain. The phenothiazines appear to be useful in decreasing anxiety, psychomotor activity, hallucinations and delusions. They are of little value in neurotic reactions and simple endogenous depression. They are not indicated for rapid control of acutely disturbed patients. In general, the patient should be started on large doses which

should later be reduced. In apathy, the phenothiazines are superior to reserpine.

Promazine appears to be the drug of choice for mildly confused ambulatory patients. Perphenazine is preferred in senile choreoathetosis. Chlorpromazine is satisfactory in agitation and restlessness.

The phenothiazines cause a high rate of extrapyramidal reactions and hypotension in the elderly. Side effects, which are dose related, may include jaundice, agranulocytosis, dermatitis and photosensitivity. The drugs may potentiate epilepsy and mental depression, reduce body temperature and exaggerate cerebral anoxia. In the elderly, they may cause parkinsonian symptoms which are irreversible. Chlorpromazine and thioridazine are often associated with postural hypotension. Perphenazine and trifluoperazine most frequently cause extrapyramidal effects. Thioridazine, in high doses, can produce irreversible retinal damage. The phenothiazines, as well as chlor-diazepoxide and diazepam can depress thyroid function.

Chlordiazepoxide and diazepam should be given in the smallest effective dose to prevent development of ataxia.

(16) *Vaccines*

While multiple inoculations are undesirable in the elderly, there may be actually strong indications for their immunization.

(17) *Vasodilators*

The long-acting forms of nitrates may cause significant hypotension and even syncope or severe disabling headaches. In addition, they may cause the development of cross-tolerance to nitroglycerin, the drug of choice for anginal pain.

There is no definite treatment of the arteriosclerotic processes underlying cerebrovascular insufficiency (CVI) in geriatric patients. Therapy with dihydrogenated alkaloids of ergotoxine has been demonstrated to be an effective treatment of CVI. Their therapeutic activity has been ascribed to vasodilation, as well as improved oxygen uptake and decreased vascular resistance.

Conclusion

- A. In serious illness, priority should be given to restoring homeostasis by rectifying the water balance, electrolyte displacements, and pH.
- B. In all disorders afflicting the elderly, drug treatment should only be initiated after all other measures have been tried.
- C. Polypharmacy should be avoided.
- D. Drugs which can produce long-term side effects should be avoided.
- E. The elderly may suffer from reduction in short-term memory. Mistakes in dosage, sequence and timing of self-administration of drugs and either complete omission of administration or over-dosages must be expected.
- F. Directions concerning drug administration must be clear and concise.

The Poison Pen

HYPERKINESIS AND POISONINGS IN CHILDREN AND ADOLESCENTS

by M. S. FURTH, M.D., M.P.H. and
G. M. ODERDA, Pharm.D.

Maryland Poison Information Center
University of Maryland School of Pharmacy

Since many varied and multiple disciplines have become involved in looking at and identifying the hyperactive child, the problem then becomes who should treat and how should treatment evolve for these children. Hyperactivity appears to be a common behavioral symptom in childhood. Various authors (Clements, Straus, etc.) have reported that hyperactive children have excessive minor neurological signs and possible abnormal electroencephalograms which may be indicative of the syndrome of minimal brain dysfunction. Hyperactivity has been defined as a "chronic, sustained, excessive level of motor activity which is the cause of significant and continued complaint both at home and at school." Others have observed that hyperkinesis is at best an elusive phenomenon which does not lend itself well to objective criteria or measurement, and which is felt by some authors not to be so much an increase in activity in the hyperkinetic child, but rather aberrant activity. (i.e., The amount of activity in the hyperkinetic child is not increased in amount, but rather there is more inappropriate behavior.) One may describe these behaviors, therefore, as those aspects of a person's behavior which annoy the observer.

In reviewing the literature, it is interesting to note the array of "soft neurological signs" that each study describes, and their applicability to a given child. An individual who has been labeled as hyperactive may or may not have one or many or all of these signs. Further, there are individuals who manifest these same signs who do not have evidence of hyperactivity. There is a poor correlation between the neurological examination and the electroencephalogram, with the final diagnosis indicating that these procedures are of limited utility in assisting the hyperactive in childhood.

It has been concluded after in-depth studies and evaluations that hyperactivity is not associated exclusively with any specific entity but occurs in three main problem areas: (1) neurologic dysfunction, (2) emotional disorders, and (3) intellectual subnormality. Moreover, the high incidence of overt psychopathology in the families supports the premise that the complementary interaction of multiple factors, both biological and environmental, tends to produce hyperkinesis. One may postulate that there are children who are predisposed to hyperactivity because of constitutional factors, who when stressed by environmental vicissitudes beyond limits of tolerance react with hyperkinesis. The same child, given environmental circumstances which are less stressful,

might be able to maintain levels of activity which are generally acceptable.

Literature abounds on the association of hyperactivity and learning problems, but little has been noted in its association as a psychiatric implication of accidental poisonings in childhood. Therefore, the content of this paper will focus on the description of studies in this area of childhood poisonings and their association with the hyperactive child. This behavior will then be further associated with experiences with adolescent suicides, who are noted to show organicity on psychological testing and poor impulse control, which characterize hyperkinesis in the younger population. Further evidence will be cited to describe the behavior of these adolescents and its association with hyperkinesis.

Dr. Raymond Sobel has in the past been involved studying the frequency of accidental poisonings in the area of New Hampshire. It should be noted that although the population he studied was exclusively a rural population, it has been the only study to date in which a careful epidemiological study has been done to look at the frequency of childhood poisonings in the community. Questions were included in the study and rates developed so that the author was able to look at the psycho-social makeup of the family and its impact on prompting the child to poison himself. A review of this study and the studies of other research was included in the *Pediatric Clinics of North America* during August, 1970, under the title, "The Psychiatric Implications of Accidental Poisonings in Children."

I will not attempt to describe here the methodology which was used but will limit myself to looking at those factors of behavior and the environment that were correlated with the poisonings in his population.

Early studies of Sobel and Margolis had concluded that the repetitive poisonings in children (i.e., ingestion of more than one item) were not related to accident proneness, pica ("dirt eating"), environmental hazard, or lack of parental supervision. Ingestion of poisons seemed to be the result of purposeful behavior on the part of the child. This behavior seemed to be correlated especially in the case of poison repeaters with: hyperactivity, negativism, and other behavioral problems of the child, limited parent-child relationships, marital tension, and a tense and distant family atmosphere. The authors suggest that this data could suggest a struggle for power between the mother and the child, "where initially the



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An especially important question, because more and more physicians are treating hypertension earlier and more vigorously to help reduce the risks of eventual organ damage. Missed medication spells danger, since such neglect may become a habit. Many pharmacists consider it their professional responsibility to interact positively with patients/customers on advice

concerning adherence to antihypertensive regimens.

Such opportunity for interaction will increase in the months and years ahead as more patients come into the treatment system. Because the problem is so tremendous—23 million Americans are hypertensive, yet only half are detected and only an eighth are under adequate treatment—mass screening efforts have been organized throughout the country.

For example, CIBA has been conducting CHEC (Community Hypertension Evaluation Clinics) programs for more than a year across the nation. Many thousands screened, many thousands referred to their physicians.

CIBA is also launching a series of hypertension-oriented seminars for pharmacists' postgraduate education as part of our commitment to meet your needs.

The challenge is before us. Now is the time for true interaction to solve what is now recognized to be a major national health problem. **C I B A**

child may be seen defying his mother's telling him not to eat (forbidden) item." Mothers in the case of repeater poisonings became inappropriately anxious, making the issue of poisoning "the battleground for other disturbances in her relationship with the child." This too increased the emotional pressure which can only lead to an increase of inappropriate behavior and possible hyperactivity.

Wehrle in his study of 100 children hospitalized for their ingestions substantiated what Sobel was saying. Using a behavior rating schedule filled out by the mothers, Wehrle found that children who poisoned themselves were most often described as daredevil, high strung, impulsive, over-active, and masculine. (Additional data pointed to the absence of the father, mother's employment, and separation experience as contributing factors in the etiology of poisoning. In Lewis' study of 1966 cited here, he was able to add to these findings a major determinant of the poisoning event—that of depletion of the mother's psychic and/or emotional resources frequently brought on by the loss of her own mother in the birth of another child. It must be assumed that the depletion of the mother's resources was responsible for inadequate child care, leading to a poor self esteem in the child, and inadequate self-protection which laid the groundwork for the poisoning to be a negativistic and self destructive response to the frustration. How often do we see the mother of a child who shows manifestations of hyperkinesis who fits into this pattern. It is difficult to determine what were the primary and secondary factors then.

Sobel indicates that other authors have emphasized the significance of the disturbed home environment and family function manifested by poor family adjustment, anxiety, insecurity and non assertiveness in the parents of the repeater children. (A repeater child is one who has ingested more than one time.) Sobel could not substantiate his fact to the extent he had hoped, but felt that his methodology which included questions that could have been threatening to parents invalidated this measure. Questions such as this were the prime deterrents. (Parents are not likely to admit their negativism toward their child, etc.)

Sobel viewed the conflict, chaos, and disorganization of the family as a key issue, and there was a high correlation between the disturbed family and incidence of poisoning. Coupled with this was the deviant behavior in the children. Mothers could not meet the needs of the children providing the child with a matrix of interpersonal experiences in which healthy coping mechanisms could be learned. Confronted with this kind of environment, "the child responds instead with helplessness, inappropriate anger, and attempts at coercive behavior such as acting out behaviors" (temper tantrums, whining, etc.). Poisoning can therefore be considered as a form of inappropriate coping behavior which could be related to psychopathological reactions such as hyperkinesis.

Also poisonings may be viewed as a way of coping with frustrated needs for independence and autonomy. The child may in his act of poisoning become master in

indicating as Sobel puts it: "Nobody is going to tell me what I can't eat." There may develop the power struggle between parent and child.

Poisonings may represent an act of self-punishment where the child needs to strike back at a parent whom he views as rejecting, negative and hostile, but feeling guilty because of this, he turns the punishment upon himself. Another author cited in this literature was Shrut, who has studied self-destructive and suicide behavior in the adolescent population. Shrut's further description of the mother's part in promoting the self poisoning will be discussed in relationship to these adolescents later.

Therefore, poisonings in children, especially repeated poisonings, are a form of deviant behavior in the child which may be a manifestation of psychopathology in the family as Sobel indicates. But, we cannot overlook the cyclic effect of deviant behavior in a child which goes to increase family pathology or the family pathology which goes to increase the deviant behavior in the child. An objective observer may be hard pressed to determine just which came first since each influences the other to increase in a mushrooming and cyclic way the pathology of both. In general, Sobel and all authors he notes emphasize the symptoms which are manifestations of the hyperkinesis in the child who poisons himself. Exactly what the underlying trigger effect was one can only speculate probably was either the biological and/or the emotional factors which lead to these hyperkinetic symptoms.

If these developmental patterns and coping mechanisms are carried into adolescence, one can continue to see manifestations of similar deviant behaviors. Adolescents who have been rejected by one or both parents early with little or no love or support have a higher frequency of suicides.

Most modern writers agree that separation during critical periods of development is a primary predisposing and unique event which together with identification with a sadio-masochistic, rejecting mother comprises the major determining factors. The loss of love, the loss of reciprocal intimacy, spontaneity, and closeness is the key, and it is not necessary that the parent be away physically. Feicher is noted as saying that the adolescent who attempts suicide has a depression stemming from a "series of real life experiences, a life full of 'downs'." There has been a continuity process throughout the adolescent's life rather than some unique traumatic event of early childhood which in and of itself predisposes the individual to depression and suicidal tendencies in later life.

An adolescent who has suffered rejection by parents throughout his life may in adolescence manifest many of the same behaviors noted above during childhood for the coping mechanisms have not developed as the chronological age of the child has progressed. The cyclic phenomena set up during childhood of deviant behavior—family psychopathology has not changed, and now during adolescence has a new emphasis when the adolescent must begin to take on increased self-reliance and responsibilities. The child who was rejected because of his deviant behavior coupled with the psychopathology of the family,

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which aggravated the behavior, enters adolescence ill-equipped to cope with the new demands of this period.

Although his hyperkinesia may have decreased (it is noted by some authors speaking in reference to minimal brain dysfunction that the hyperkinesia abates during adolescence), the adolescent still carries the scars of rejection and ridicule which have lowered his self-esteem. He no longer can feel adequate among his peers and he seeks alternatives to escape with drug addiction and suicide. His impulsiveness hampers him from evaluating the appropriateness of an act, and he runs head on into one disaster after another. When learning disabilities are also associated with his hyperactivity, as they so often are, he finds himself unable to compete in the mainstream of his society. Feeling hopeless and helpless, he takes what seems to him the easiest way out—his self-destructive behavior, his suicide.

The parent may even convey, unconsciously, to the adolescent a basic feeling of the adolescent being a burden; and the self-destructive acts then become fulfillment as Shrut indicates of the mother's unspoken demand that the child be nonexistent. Sabbath confirms this with his work also by pointing out the long history of parent-child difficulties and the crisis in adolescence. The parent sometimes perceives his child's sexuality and hostility as a threat to his "sanity, marital stability, and even his very existence." They react by wishing him dead and that he could be dispensed with." "He had become expendable" and feeling abandoned, complies with the suicide attempt. When there is an unresolved bitterness at the child for not being a "perfect" child these factors are increased a hundred fold. The son that parents have waited for who in no way fits their ideal; who in fact is a disappointment because of his hyperactivity and defiant behavior feels very early that his parents would be better off without him.

Other research could be noted to emphasize this point, but I feel that the reader should have some sensitivity for the problem by now. But, in order to make this more relevant, a general description of the adolescents being seen in the adolescent clinic at University Hospital will be included as a summary.

If one were to look at the thirty some adolescents between the ages of 12 and 18 years who have attempted suicide and become known to the program during the last five months; one would identify characteristics that seem to be associated with each that can be identified as those characteristics and behaviors this paper has spoken to. The large majority of these individuals have attempted suicide by overdosing with drugs. In this group where the psychologicals were administered, it was found that they all showed organic problems similar to what would be expected with "minimal brain dysfunction" and poor impulse control. When the school records of these adolescents were evaluated, the large majority showed learning disabilities with reading levels three to five years below the grade which they were attending. Poor attendance and drop-out were frequent. On their histories these adolescents had indications of poor attendance and uncon-

trolled behavior throughout their academic life. Negative and derogatory reports were frequent from teachers.

The majority of these adolescents came from single parent homes in which the father had not been present or had only been present during the adolescent's very early years. Psychopathology was high in the mothers with a high frequency of alcoholism, prostitution, and child neglect. Many of these families had a long and involved history with social service agencies.

The gross family pathology and rejection of the adolescent were noted to have been present for many years. Most of these adolescents had tried other coping mechanisms before attempting suicide. Among these coping mechanisms were included a high frequency of running away, sexual acting out, and glue sniffing, which had not worked and so as a last resort they had attempted suicide. Most of these adolescents were noted to be depressed, but manifested this in different ways. It was interesting to note that frequently their depression would be hidden under hyperactive behavior (Note: It has been noted by several individuals working in this field that children and even adolescents will not show depression as an adult does. But, instead will frequently manifest it through an increase in hyperkinesia.) The behavior and characteristics of the adolescents and their families are strikingly similar to those described in the younger group by Sobel. One can only speculate that the adolescents were perhaps the very same hyperactive children of the past. Their hyperactivity apparently has not been dealt with either by them or their environment in a way that would allow alternative decisions to be made. They continue to act before they think—thinking apparently has offered nothing but pain; and thought of rejection and loss of self-esteem. Impulsiveness is their badge.

It is the feeling of this writer that hyperkinesia whether it be a manifestation of biological, social, psychological, or other environmental factors which have been associated with poor impulse control strongly associated with repeated poisonings in children and suicide attempts in adolescents now awaits research to validate this.

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TRIGEMINAL NEURALGIA — Trigeminal neuralgia is one of the most common of all neuralgias, reports the National Institutes of Health. Although its exact cause is not known, its symptoms often arise in connection with infections of the teeth or nasal sinuses. Occasionally, this neuralgia is associated with tumors or other disorders of the nervous system.

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Washington Spotlight For Pharmacists

By

Mark Neil Levine — APhA Legal Division

Comprehensive Health Insurance Bill

With support from the Nixon Administration, the subject of a national health insurance program will become a top domestic priority during 1974.

In a special message to Congress on February 6, 1974, President Nixon proposed legislation for a national health insurance system. According to the President, he envisions a program that would offer comprehensive health care coverage to all Americans for the first time, without requiring additional taxes.

It should be pointed out that the Nixon Administration proposed a modest national health insurance program in 1971. However it died in Congress, where Senator Edward Kennedy, D-Mass., was pushing his own plan.

On October 2nd of last year Senator Russell Long, D-La., and Senator Abraham Ribicoff, D-Conn., proposed their own comprehensive program. Generally it received wide support among Congressmen where 23 Senators quickly co-sponsored it.

The Nixon Administration's Comprehensive Health Insurance Plan has two major sections, the Employee Health Insurance Plan (EHIP), and the Assisted Health Insurance Plan (AHIP). Most employees would be covered by the EHIP plan while low-income families would generally be covered by AHIP.

Employee Health Insurance Plan (EHIP)

Under the Nixon bill, all employers would be required to offer the basic insurance plan and Health Maintenance Organization coverage to each employee under 65 who meets the criteria of being a full-time worker. Coverage would be extended to family members under 65. Employers would have the opportunity to insure themselves. Individual participation in the health insurance program would be voluntary.

The basic plan would be available to self-employed as well as non-working families, individuals, and non-employer groups such as associations, through private carriers.

Employers would be required to offer coverage meeting the basic plan. If they so desired optional plans supplementing the basic plan could be offered by employers. However, under no circumstance could employers offer a non-approved plan.

Sixty-five percent of the premium would be paid by employers for covered employees. In the event an employer's payroll rises by more than 3 percent as a result of required contributions for coverage, the Federal Government would pay a subsidy to the employer. Such sub-

sidy payments would be 75 percent of any excess the first year reduced by 15 percent each succeeding year.

The employer would be required to contribute his share 90 days after employment begins and continue such contributions for 90 days after termination of full-time employment.

Assisted Health Insurance Plan (AHIP)

States would contract with intermediaries to offer the basic plan to all residents of the State, except those with family incomes of \$7,500 or more who are covered by the Employee Health Insurance Plan (EHIP).

Those most likely to enroll in the Assisted Health Insurance Plan (AHIP) include families below \$5,000 income level regardless of work (\$3,500 for individuals); very high risk working families between \$5,000 and \$7,500 income (\$3,500-\$5,250 for individuals); non-working families with unusually high medical risks such as disability and early retirees, regardless of income.

Under the proposed Nixon Administration bill, the following services would be reimbursable:

REIMBURSABLE SERVICES—hospital and physician services, not subject to a dollar limitation; prescription drugs, out of hospital.

MENTAL HEALTH SERVICES—mental health inpatient services—30 full days or 60 partial days; outpatient care including 30 visits to a comprehensive community care center or private practitioner.

SPECIAL AND PREVENTIVE SERVICES FOR CHILDREN—well child care up to 6 years old; eye examinations, developmental vision care and eyeglasses up to age 13; ear examinations and hearing aids up to age 13; routine dental services up to age 13.

OTHER PREVENTIVE SERVICES—prenatal and maternity services; family planning services; home health services (100 visits per year); post-hospital extended care (100 days per year); blood and blood products; additional medical services such as prosthetic devices, dialysis equipment and supplies; X-rays; laboratory; ambulance.

As presently outlined the benefit package would result in an average family premium of \$600 while single persons could expect to pay a \$240 premium. Employers could expect to pay \$415 for each full-time employee covered. As indicated, the employer would eventually pay 75 percent of the premium costs, the employee the remaining 25 percent.

Under the Employee Health Insurance Plan services would not be reimbursed until the insured has reached

a deductible of \$150 per person with a maximum of three deductibles per family. Additionally, there would be a \$50 per person deductible reimbursement for outpatient drugs.

Under the Assisted Health Insurance Plan premiums and deductibles would be based on the employee's annual income.

Under the Nixon plan Medicare for the Aged would be retained, with the benefits increased to conform with the mandated health plan. Medicare would continue to be administered directly by the Social Security Administration and financed from the current 1.8 percent payroll tax plus a small premium contribution by the enrollee, about \$90 per person annually. Federal, State and local government employers and employees would participate in the Medicare system and be subject to the Medicare payroll tax.

The Medicaid Program would be junked except for certain services not covered by the Comprehensive Health Insurance Act. Meanwhile the Veterans Administration would continue to operate a separate health care system for those eligible for VA benefits.

How The System Will Work

All persons would receive an identification card which would serve as proof of financial protection for all covered services. Those providing services would be required to accept the card as evidence of coverage and would bill the insurance company (carrier) for covered services.

Pharmacists would be paid by the insurance company (carrier) for expenses incurred by the enrolled participants. Under the Nixon plan there are two classifications of providers.

FULL-PARTICIPATING PROVIDERS — would accept reimbursement through the Healthcard as payment in full for all patients, whether covered by EHIP, AHIP, or Medicare. Providers would be reimbursed the full amount. It's expected that most hospitals and pharmacies would fall into this category.

ASSOCIATE-PARTICIPATING PROVIDERS — primarily this group would be made up of physicians. They would agree to accept reimbursement through the Healthcard as payment in full for all AHIP and Medicare patients, and as payment of the insured amount of an EHIP enrollee's bills. In order for physicians to collect the remainder of their fee they would bill the patient directly.

Drug Ads Ruled OK

A three-judge federal panel has ruled unconstitutional a Virginia law prohibiting pharmacists from advertising the price of prescription drugs.

The decision could speed the end of similar statutes and regulations in other states and may also pave the way for commercial advertising by other professional groups such as physicians and lawyers.

The panel's unanimous decision was based on the First Amendment to the U.S. Constitution:

"The right to know is the foundation of the First Amendment; it is the theme of this suit. Consumers are denied this right by the Virginia statute," according to the ruling.

"Enforcement of the ban on price advertising gives no succor to public health; on the contrary, access by the infirm or poor to the price of prescription drugs would be for their good."

The decision noted that both sides agreed that "prices do in truth vary tremendously throughout the state." Evidence showed price variations of more than 500 percent exist for brand name prescription drugs.

The judges agreed that "the ages and physical condition of many of the individual(s) . . . prevent their ascertaining the most economical purchase . . . and their finances may control where they can purchase desperately needed drugs."

The panel's decision also rejected another argument that was cited by advocates of the advertising ban. "The belief that price advertising will inflate the market for the drugs is wholly untenable, since the medicine is controlled by prescriptions of physicians and so the sale of the drugs is not even at the druggists' will," the ruling said.

Mail Order Seller of Dietary Vitamin Supplements Cited In FTC Complaint

A proposed Federal Trade Commission complaint charges that three North Hollywood, California firms marketing "Mega-Vitamin," a dietary supplement, are using deceptive weight loss claims to sell them.

The FTC said that among the advertising claims it is challenging are the following:

"Documented weight-losses of 12 pounds, 19 pounds, 28 pounds, and many other fantastic reports have now been institute certified."

"Thousands and thousands of men and women in the U.S. and Canada are enjoying similar success."

"A newly developed SUPERPROTEIN TABLET, CREATED ESPECIALLY FOR THIS DIET, contains a whopping 570 milligrams of solid natural protein. Each tiny milligram zeros-in on fatty tissues to break down and burn-off many, many times its equivalent weight."

However, the FTC alleges that in reality weight losses as a result of using the "MEGA-VITAMIN" Diet have not been documented or independently verified other than by the unsupported assertions of persons claiming to have lost weight.

In addition, the FTC charges that:

The firms do not have documentation or independent verification of weight losses by two thousand or more persons in the United States and Canada as a result of using the diet.

Mega-Vitamins are not directly responsible for weight

loss; the diet regimen of restricted caloric intake is responsible for any weight loss experienced.

The FTC also claims that any weight loss experienced from taking Mega-Vitamins results from the body's reliance on fatty tissue for its caloric needs in lieu of excessive caloric intake.

Warrantless Search and Seizure of Pharmacy Upheld

The decision results from efforts by the defendant to prohibit New York City Health Department inspectors access to business records, including prescriptions for narcotic drug preparations for evidentiary purposes.

The inspectors identified themselves before the audit and were allowed by one of the owners to make their inspection. As a result of the inspection, criminal charges were filed against the defendants for violation of the Public Health Law and the City Health Code. The basis of the defendant's motion was that the evidence was unlawfully obtained without either a warrant or a voluntary waiver of consent.

The Court denied the motion: "It is a well established rule of law that a police officer need not obtain a warrant to make a search where the person searched gives his voluntary consent."

The Court added that "Officers of the Department of Health shall have access at all times to all orders, prescriptions or records" kept under that city's Public Health Law.

The Court pointed out that while PHL Section 3390 may be too broad in that it permits access to records "at all times" and not just during business hours, "it is undisputed that the search took place during business hours and was not unreasonable in respect to the scope of the items searched."

Sign Out:

The Alabama Court of Appeals has upheld a ruling by the State Board of Pharmacy requiring that when a licensed pharmacist, who is supervising an assistant, leaves the premises, a sign must be posted in a prominent place on the prescription counter. The Court ruled that the sign must have the pharmacist's name, hours he will be away from the premises, and the address and telephone number where he can be reached, or, if alternative supervising pharmacist is on duty, the similar information must be indicated. The Court also upheld the Board in determining that the licensed pharmacist assistant violated the rule by failing to display the required sign on the counter.

MYASTHENIA GRAVIS — Myasthenia gravis attacks the point at which nerve meets muscle, stopping the electrical impulse before it can excite the muscle to contract, reports the National Institutes of Health. The disease can be effectively controlled in many cases, but without treatment it becomes progressively worse.

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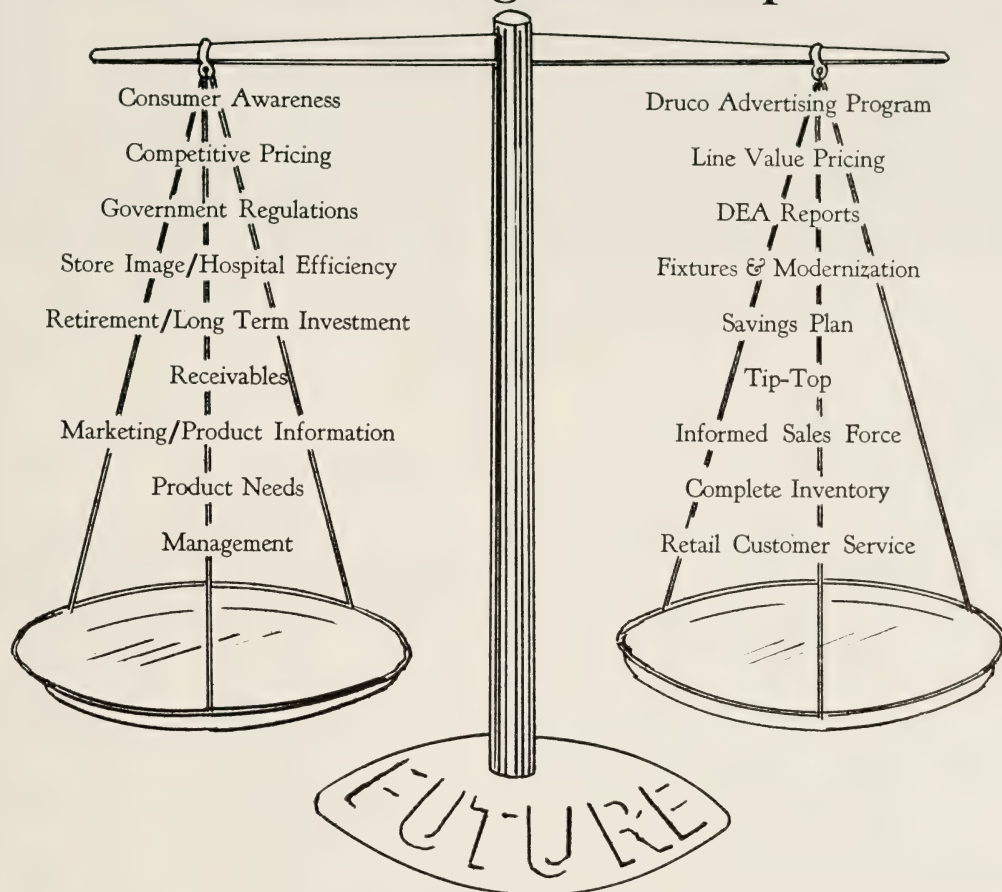
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The Maryland Pharmaceutical Association group prior to departure on its Pharmaceutical Seminar and Tour to Israel. The program included meetings at the Hebrew University School of Pharmacy and Hadassah Medical Center and Pharmacy. Government officials addressed the group.

TAMPA News

Ladies Day for the Travelers Auxiliary of the Maryland Pharmaceutical Association was held at the Milford Center in Pikesville. About 100 members, wives and guests were in attendance.

A.Z.O. News

The Alpha Zeta Omega Pharmaceutical Fraternity held a breakfast meeting at the Suburban House Restaurant on May 19. The following slate of nominees for office was presented for election: Directorum—Alan Stoff; Sub-Directorum—Dennis Klein; Ex Cheque—Mark Levi; Signare—Arnold Honkofsky; Corresponding Signare — James Kessler; Bellarum — Carroll Minkove; Executive Unit—Barry Hecht.

Eastern Shore Pharmaceutical Society

The Eastern Shore Pharmaceutical Society met in the Board Room of the Easton Memorial Hospital on May 15. The business session was devoted to a discussion of the issues to be considered at the MPhA Convention including consumers on the Board of Pharmacy and pharmacy technicians.

The continuing education session which followed reviewed the treatment of hyperlipidemias. President Sisca announced that this would be the last meeting before the fall.

Maryland Society of Hospital Pharmacists

The May 9 meeting of the Maryland Society of Hospital Pharmacists was held at St. Joseph's Hospital in Towson. Guest speaker was Dr. Willin Bosna, Director of Alcohol and Drug Abuse at the University of Maryland Hospital. Dr. Bosna spoke on "The Pharmacist's Role in Drug Abuse Prevention."

Prince Georges-Montgomery County Pharmaceutical Association

Recently elected officers of the Prince Georges-Montgomery County Pharmaceutical Association who were to be installed on June 9 are:

President	Simon Zvares
First Vice President	Edward Sandel
Second Vice President	Henry Theis, Jr.
Third Vice President	Leonard DeMino
Fourth Vice President	Morton Katz
Secretary	Edward Nussbaum
Treasurer	Dominic J. Vicino
Executive Secretary	Paul Reznek

Elected to the Executive Committee chaired by S. Ben Friedman were: three-year term members Jonas Rose, John Dougherty and Jack Goldberg; two-year term members Lawrence Gusman, Robert Irby and Michael Leonard; and one-year term members Monroe Levinson, Arthur Yellin and Robert Koenig. In addition Frank Antkowiak, Paul Gallagher and Herman Bloom serve Ex-Officio. The Annual Installation Affair was scheduled for June 9 at the College Park Holiday Inn.

Washington County Pharmaceutical Association

The Washington County Pharmaceutical Association met on February 20, 1974 at the Venice Restaurant in Hagerstown, Maryland. The evening speaker was Rev. Chuckla who spoke on drug abuse. On February 21, several students from the University of Maryland School of Pharmacy participated in a drug abuse program with the Drug Abuse Assistance Center of Washington County. The participating students were Claude Nogay, Joseph Fallon and Ronald Logan. The program was repeated on February 22 and 23 at Fort Ritchie for military personnel and dependents.

On March 11, 1974, the Washington County Pharmaceutical Association participated in a drug abuse program with Rev. Chuckla and State's Attorney Daniel Moylan. The program was presented to a girl scout troop at the First Brethren Church in Hagerstown.

Pharmacist Samuel Lang participated in a drug abuse program at Holy Trinity Church in Hagerstown on March 18 for a regional PTA gathering sponsored by the Drug Abuse Assistance Center.

Wedgewood Club of Baltimore

The Wedgewood Club of Baltimore held a meeting on March 28. Chairman Albert Ohlendorf suggested it would be appropriate to have a History of the Wedgewood Club prepared for the club's 75th anniversary in 1975. A motion to this effect by Richard Crane was approved. Edward Piper and Jack Mentzer were appointed to make the survey.

Accordingly, the Wedgewood Club is seeking items of historical nature including names, dates, circulars, booklets, newspaper references, pictures etc. that will enable the committee to establish a running resume of the Wedgewood Club of Baltimore. All items will be returned if so requested. Your prompt response will be appreciated. Please contact Edward W. Piper at 3811 Canterbury Road, Baltimore, Maryland 21218, Phone 366-7877.

Students Visit Pharmacy

Twenty-three second and third grade students from the Deep Creek Elementary School visited the Marlyn Pharmacy recently for a lesson on correct and incorrect use of drugs.

The field trip was the final activity to a unit the children were studying on the use and abuse of drugs and other non-food substances. The children visited the pharmacist's working quarters where pharmacist Morton Scherr discussed with them the use of prescription drugs. The students were then treated to refreshments.

Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of April:

New Pharmacies

Highland House Drug, Melvin Sindler; 5427 Friendship Boulevard, Chevy Chase, Maryland 20015.

Supersales Pharmacy, Inc., Steven Tompakov, President; Gambrells and Maple Roads, Gambrells, Maryland 21054.

Grand Rx Drug Store, Charles G. Rodman, President; 1811 York and Ridgely Roads, Timonium, Maryland 21093.

Drug Fair No. 156, Milton L. Elsberg, President; 400 Ridgeville Boulevard, Mount Airy, Maryland 21771.

Rite Aid Center, Lewis E. Lehrman, President; 3600 Eastern Avenue, Baltimore, Maryland 21224.

Changes of Ownership, Address, Etc.

Parkville Pharmacy, Nathan Cooper (Change of address—was: 7719 Harford Road); 7710 Harford Road, Baltimore, Maryland 21234.

Sentry Drug Center No. 1, James E. Allen, President (Change of ownership); 6023 Moravia Park Drive, Baltimore, Maryland 21206.

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Wabash Pharmacy, Robert and Rose Fribush; 3741 Wabash Avenue, Baltimore, Maryland 21215.

Schrader's Pharmacy, Harry L. Schrader; 347 South Smallwood Road, Baltimore, Maryland 21223.

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Nathan I. Gruz, Editor
Maryland Pharmacist
680 West Lombard Street
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William J. Kinnard, Jr., Ph.D., Elected To USPC Board of Trustees

Dr. William J. Kinnard, Jr. has been elected to the USPC Board of Trustees, according to Dr. Paul L. McLain, Chairman of the Board. Dr. Kinnard fills a vacancy created by the retirement of Dr. W. Paul Briggs.

Dr. Kinnard is the delegate to the USP Convention representing the American Society for Pharmacology and Experimental Therapeutics. He served on a special liaison committee which recently developed a new plan to merge the official compendia.

Dr. Kinnard is Professor of Pharmacology and Dean of the School of Pharmacy at the University of Maryland. He received a B.S. in Pharmacy in 1953 and the M.S. in 1955 from the University of Pittsburgh. He earned his Ph.D. in Pharmacology in 1957 from Purdue University.

University of Maryland School of Pharmacy Continuing Education News

The Division of Continuing Education, University of Maryland School of Pharmacy has announced that three enrollees of the Cassette Tape Study Program have completed their selected courses and have successfully passed final written examinations. Certificates in recognition thereof have been awarded to Albert Lichtman, John L. O'Neal and J. Ben Prag.

Seventeen other pharmacists are currently enrolled in the program. For more information please contact Mr. Henry G. Seidman, Director of Continuing Education, University of Maryland School of Pharmacy, 636 W. Lombard Street, Baltimore, Maryland 21201.

Upper Bay Pharmaceutical Association

The Upper Bay Pharmaceutical Association held its Spring meeting on May 5 at the Madison House in Northeast, Maryland. There were twenty-two pharmacists in attendance with wives and guests. A brief statement by President Edward Sears stressed the importance of active participation on local, state and national levels of organized Pharmacy. The President's remarks were amplified by George Schmidt of Cecilton, a Past President of MPhA (1958).

Mr. Sears reviewed the activities of the MPhA during the past year including a summary of legislative proposals and their outcome. A group discussion was then held on topics to be considered at the MPhA House of Delegates session during the Annual Convention.

The evening speaker was Mr. John Fader, attorney and pharmacist, who spoke on "The Pharmacist and Liability."

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Obituaries . . .

Ernest J. Messersmith

Ernest J. Messersmith, 69, died on April 30, 1974 after a long illness. A 1926 graduate of the Milton University School of Pharmacy, Mr. Messersmith was a member of the American Pharmaceutical Association and Maryland Pharmaceutical Association.

Charles E. McCormick

Charles E. McCormick, 85, died on May 2. He practiced Pharmacy for more than 60 years until his retirement last year. He graduated from the University of Maryland School of Pharmacy in 1912.

Reuben Hirschowitz

Reuben J. Hirschowitz, 70, died on May 3, 1974. He was a 1924 graduate of the University of Maryland School of Pharmacy.

Morris Rendel

Morris Rendel, 48, died on April 21. He was a 1951 graduate of the University of Maryland School of Pharmacy.

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the maryland pharmacist

JUNE

1974

Volume 50

No. 6

Professional Liability of The Pharmacist

by William T. Kerr, Attorney

The Poison Pen

The Nontoxic Ingestion

by G. M. Oderda, Pharm. D. and M. S. Furth, M.D., M.P.H.

Summary of Minutes of Board of Trustees Meetings

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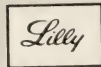
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The Maryland Pharmacist

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Editorial . . .

OUR CHANGING PROFESSION

Within the period of one week, three decisions were made which will have a major impact on our Profession. In North Dakota, the State Supreme Court declared that state restrictive ownership statutes are valid under both the state and federal constitution. This opinion was a follow-up of the United States Supreme Court decision of last December. One of the arguments used by the North Dakota Board of Pharmacy in presenting its case was that the term "pharmacy" was intended to identify a particular type of establishment within which a health profession is practiced, and thus was intended to be more than a mere means of making a profit.

A second major decision was rendered by the D.C. Federal Court which ruled that the FDA cannot prevent any licensed pharmacist from dispensing "approved" drugs. At issue was the methadone dispensing restrictions sought by the FDA which were challenged by the APhA. In commenting on the decision, APhA Executive Director Dr. William S. Apple stated: "The Court's decision provides judicial recognition of the national policy established by Congress that community pharmacists are to be fully available in meeting public health care needs. This means that every pharmacist is legally entitled to dispense any drug legally available for medical purposes." Had the court ruled in favor of the FDA, a dangerous precedent would have been established which could have opened the door to future restrictions of this nature. However, the FDA is expected to appeal the decision.

Also in this same one week period, Michigan was added to the list of states which repealed their antisubstitution laws, following closely behind Florida. A trend seems to be developing in this area. All of which emphasizes, Pharmacy is changing. Now it is up to us to see that these changes are beneficial to our profession.

—Normand A. Pelissier

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PHARMACY CALENDAR

August 3-4 — National Catholic Pharmacists' Guild Twelfth Anniversary Convention, Midland Hotel, Chicago, Illinois.

August 3-9—American Pharmaceutical Association Annual Meeting, Chicago.

September 29-October 4—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas. MPhA "Las Vegas Holiday."

October 31-November 3—American College of Apothecaries Annual Convention, Alameda Plaza, Kansas City, Missouri.

December 8-12—American Society of Hospital Pharmacists Midyear Clinical Meeting, Bal Harbour, Florida.

1975

January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

April 19-24—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.

Pharmacy Manpower Questionnaire

As part of the Maryland Board of Pharmacy's role in cooperating with the Pharmacy Manpower Information Project, a questionnaire was sent recently to all registered Maryland pharmacists. The Project is being conducted by the American Association of Colleges of Pharmacy and the information derived will be helpful for the School of Pharmacy in setting enrollments and planning realistic educational programs to meet the needs of the State.

The first distribution of the manpower survey by the Board of Pharmacy did not yield the required 90 per cent response rate. It is requested that every pharmacist (even those not in practice, retired, etc.) who has not yet completed this questionnaire please do so and return it to the Board of Pharmacy.

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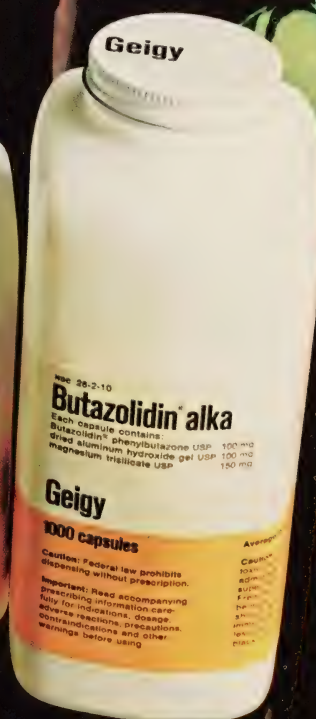
Board of Trustees Meetings

NATHAN I. GRUZ, *Executive Director*

April 11, 1974

- Received letter of acknowledgement from the College of Notre Dame of Maryland for the participation of the Executive Director in one of the sessions of the course on Consumer Affairs.
 - Received communication from HEW regarding vinyl chloride caution and new vaccine for spinal meningitis.
 - Approved President's report noting his activities regarding legislation during the 1974 legislative session. The President also reported on his attendance at the meeting of the Eastern Shore Pharmaceutical Society.
 - Approved Treasurer's report.
 - The Executive Director reported on the extensive activities required in the closing weeks of the legislative session which included testimony in Annapolis and meetings with several legislative contacts. The Executive Director was invited to the Board of Trustees of the Associated Prescription Services regarding the prescription benefit plan. The group announced a revision in the pharmacist's compensation.
- Other activity included PSF, BMPA meetings, the National Council of State Pharmaceutical Association Executives meeting in Washington in connection with the NARD legislative conference, meeting with the Dental Legislative Committee and Medical Society Executive Council and trip to Downingtown Inn regarding the Convention. The Executive Director emphasized the need for cooperative action with the Medical Society and the implementation of initiative in connection with legislation for the 1975 session.
- Received Legislative Committee report reviewing the bills of interest and noting that none of the bills regarding prescription price advertising or posting were enacted. The only bill which was enacted contrary to the Association's position was House Bill 1636 which requires a label on categories of drugs covering a considerable portion of all prescriptions which would caution against possibility of impaired driving. The bill was too broad in scope and covered many drugs which were not relevant. The Chairman recommended that the Presidents of the local groups be invited to participate or appoint representatives to the MPhA Legislative Committee and also serve as liaison to local medical societies. This would be an expansion of the practice now in use.
 - Received Dean Kinnard's report on the Maryland Medical Assistance Committee's Pharmacy Subcommittee which has met and seeks a restructuring of the regulations. Among some of the items to be considered are: basis for cost under Medicaid and definition of acquisition cost for hospitals. The Dean requested the MPhA position regarding the future of the museum in connection with planning for the new pharmacy building. The President will take this up with the Maryland Pharmaceutical Foundation.
 - Heard Convention Committee report outlining the convention program. Chairman Freiman visited the Downingtown convention site with representatives of TAMPA (Traveler's Auxiliary) and LAMPA (Ladies Auxiliary).
 - Pointed out that in answer to the matter of the MPhA not providing publicity for an affiliated county pharmaceutical association trip, the MPhA Board of Trustees had recommended against having the trip and therefore mention of the trip was not included in publicity releases.
 - Reviewed proposed amendments to the Constitution and Bylaws submitted by members and referred to the Constitution and Bylaws Revision Committee for its recommendations.
 - Received report from the Board of Pharmacy regarding visitation plans for the preceptor and extern program and the matter of legislation to place exempt narcotics on prescription only status. It was decided that this might be possible by regulation.
 - Heard Third Party Program Committee report. The state budget did not include an increase for Medicaid but work is continuing along with Assistant Secretary John Kent to obtain an increase during the year. Legal counsel has promised a report on definite results regarding problems in freedom of choice in some of the third party programs. There will be an increase in the UPP prescription plan's fees effective in August. Mr. Lachman reported on the work of the Medicaid Advisory Committee. The issuing of temporary cards to Medical Care patients will be discontinued after July 1. Temporary cards should not be honored as of that date. There was discussion regarding the Association publishing the actual manufacturer of drug products.
 - Approved the appointment of the President and Executive Director as Delegates to the APhA Convention

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along with Mr. Lachman and Mr. Seidman if they attend. A total of five delegates are allotted MPhA.

New Members

The following is a list of the new members approved at the April 11, 1974 meeting of the Board of Directors of the Maryland Pharmaceutical Association:

Frederick Kenworthy, York, Pa., (Associate), Ciba Pharmaceuticals

Robert Martin, Cumberland, Maryland

Thomas S. Shelor, Frederick, University of Maryland Class of 1974

May 9, 1974

- Received letter from the American Society of Consultant Pharmacists regarding unit dose seminar.
- Received letter from USP regarding plan for distribution of USP XIX through state associations.
- Received copy of communication from Delegate Rynd to Delegate Alperstein regarding MPhA stand on House Bill 1636 (prescription label warning statement requirement regarding driving impairment caused by certain drugs).
- Approved President's report noting announcement by COPES urging HEW to require disclosure of actual manufacturer of a drug product. The President spoke of efforts to obtain veto of House Bill 1636 and commented on his attendance at the Upper Bay Pharmaceutical Association meeting and the ramifications of the North Dakota pharmacy ownership supreme court decision. The President stated that he will appoint a special committee on this matter.
- Approved Treasurer's report. The Treasurer stated that he will discuss with the Association's accounting firm the institution of a double entry bookkeeping system beginning with the second six months of the year and that a special savings account for trips would be established.
- The Executive Director reported on major activities for the preceding month which involved Convention Programming, Regional and House of Delegates meeting, Maryland Health Maintenance Committee, Membership Committee, Hawaii Trip, and political receptions for several legislators at state and national levels. There was considerable activity involving the campaign for veto of House Bill 1636 and conference with the State Department of Health regarding standards of practice and guidelines for institutional pharmacy.

The Executive Director emphasized the need for developing guidelines, regulations and legislation concerning professional pharmacy practices and permits. After considerable discussion, it was agreed that this matter be referred to a special committee on pharmacy practices and to request a status report from COPES.

Announcement was made of the appointment of Dean William J. Kinnard to the Board of Trustees of the USP and of Past President Donald O. Fedder to an FDA Advisory Committee.

- Approved Membership committee report noting extensive activities, particularly in the BMPA area. A campaign is being launched for six months membership through December 31.
- Received Convention Committee report which included an up-to-date report on the program and on the various mailings for publicity and registration.
- Received Legislative Committee report noting contacts with Delegates regarding future plans on drug product selection legislation. Action concerning veto for House Bill 1636 was being handled primarily by the Executive Director.
- Heard Prescription Insurance Programs Committee report. The Chairman reported on his contacts with PCS for information and that the Construction Worker's Program was being contacted through legal counsel for obtaining freedom of choice of pharmacy. The Board voted that if there is no definite action within 30 days, MPhA would instruct its legal counsel to have a show order served to the Construction Worker's Trust Fund and its administrator for violations of the state law requiring freedom of choice of pharmacy in non-profit third party prescription insurance programs and that the fund be required to notify all pharmacies designated in previous announcements.
- Heard report of the Speaker of the House of Delegates stating that he had conferred with the President and Secretary regarding the House of Delegates Convention program. He announced that there will be time allocated for discussion of committee reports.
- Received report from the Constitution and Bylaws Revision Committee Chairman announcing that a draft of constitutional amendments was being prepared.
- Heard report from the Secretary of the Board of Pharmacy noting that the clause "in each case" involved in drug product selection law is being reviewed and that a meeting on this subject was scheduled. He spoke of current problems regarding cough syrups, particularly with dextromethorphan containing preparations. Current problems indicate that abused over-the-counter products should be kept behind the pharmacy counters. There was discussion regarding the necessity for a third class of OTC drugs which are being abused.

The Secretary also discussed licensing of nursing homes regarding drugs. He stated that pharmacists in Maryland may honor prescriptions for controlled dangerous substances written by physicians outside of Maryland if they possess a BNDD (DEA) number. The next Board of Pharmacy exams are scheduled for June 19, 20 and 21. He referred to problems of Dilaudid where addicts are conning physicians into prescribing Dilaudid where not medically indicated. He also referred to

activities in the area of security of drugs in institutions and that the Board has asked for the Governor's veto of House Bill 1636.

—Approved motion that members of MPhA be requested to remove abused OTC drugs from open display.

—Approved the purchase of furniture and equipment which was made available at a small fraction of actual cost due to the closing of the Maryland Health Maintenance Committee's office.

—Noted that the School of Pharmacy had scheduled a seminar on "Update of Pharmacy Laws" for June 9.

—Approved motion that the Maryland State Department of Health be requested to make available to MPhA a list of drug products distributed in Maryland which are not manufactured by the distributor with the name of the actual manufacturer.

New Members

The following is a list of the new members approved at the May 9, 1974 meeting of the Board of Directors of the Maryland Pharmaceutical Association:

Ellwood Lee Fletcher, Jr., Linthicum, Student, University of Maryland

Kathleen McGraw Meckley, Hagerstown, University of Pittsburgh, Class of 1973.

Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of May:

New Pharmacies

Clifton T. Perkins Hospital Center-Pharmacy, Harriett R. Noel, Pharmacist; Dorsey Run Road, Jessup, Maryland 20794.

Revco Discount Drug Center, Sidney Dworkin, President; Bay Ridge Plaza, Annapolis, Maryland 21403.

Changes of Ownership, Address, Etc.

Bemar Pharmacy, Richard Willems, President (Change of ownership), 9309 Georgia Avenue, Silver Spring, Maryland 20910.

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Medical Center Drug Company, Inc., Robert Stofberg, President; 1401 East Cold Spring Lane, Baltimore, Maryland 21239.

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Professional Liability of The Pharmacist*

By WILLIAM T. KERR, Attorney

Introduction

Anyone who reviews the field of pharmacy malpractice is immediately struck with the contrast between the relatively few cases involving pharmacists and the multitude of cases involving physicians. Unfortunately for the pharmacist, there is a similar contrast between the average income of his profession and that of the doctor. Is there a relationship between these two contrasts? To some extent, the value society places on the services of a given profession is influenced by the amount of risk assumed by that profession in performing its service. Every time a physician operates, the life of his patient is at stake. The financial rewards of the medical profession are often justified by them on the basis of the personal risks they assume in their role as physicians. Does the pharmacist assume a similar responsibility and a similar risk? As a group, there is little doubt that pharmacists are on the low end of any scale which compares average income to the amount of education or degree of technical skill required to perform their particular function. There are probably many explanations for this. As a profession, pharmacy had a relatively late start. Until the opening of the nineteenth century, the American physician prescribed from his own stock of drugs, and actually there is no evidence that a pharmacist, as now known, existed in America prior to the American Revolution. No one ever ventured to issue an American pharmacopeia before 1779, when William Brown published a little work at Lancaster, Pennsylvania for the use of the military hospital of Washington's army. When technology intervened, and factory made gelatin capsules and tablets were produced by the first pharmaceutical factories, the pharmacist was able to do away with his mortar and pestle to a large extent, thus reducing the opportunity for error. No doubt, the pharmacist was considered a "para professional" by the medical profession, and, for a time, they considered the pharmacist more of a threat than an aide, and the profession still suffers from this original false-image. (As your own profession seeks to utilize lay assistants, it would be well to remember your own experience. The quality of such assistants, and your success in recruiting such people, will depend to a great extent upon the "status" of their "profession." For instance, your own journals refer to such people as "sub" professionals, which is rather undiplomatic and, in the long run, unwise.) Today, however, although he compounds fewer drugs, the pharmacist dispenses, in both kinds and quantity, and the demands that this tremendous number of products place upon him, whether retail or hospital, has multiplied the opportunity for error and has necessitated the expansion of the pharmacist's educational training to a five-

year program. All of this reflects the increasing amount of responsibility for patient care and safety which the pharmacist must assume. With responsibility goes risk. With risk should go financial reward. Whether or not this will occur remains to be seen. Whether or not this occurs, the responsibility for patient care and safety will remain. It is this relationship to which the civil law is directed.

To place the ensuing discussion in perspective, it should be understood that the law and the legal profession affect the pharmacist in several ways. Pharmacists are well aware of their potential liability to customers or employees who are injured on their business premises. The Federal government, through its regulatory agencies, particularly the F.D.A., exercises control over the products you dispense and, to some extent, the manner in which they are dispensed, particularly narcotics. The State government, through its licensing powers, maintains some control over the manner in which you may practice your profession. Government regulations, alone, raises legal problems which could be the subject of another discussion; including administrative law and procedure, the right to legal representation, the right of appeal, and several others. The criminal law may affect the pharmacist, in certain situations, if an error was made and the consequences were drastic enough, if the error was malicious or extremely careless. The topic of this discussion is limited, however, to the civil liability of pharmacists, in money damages, for the consequences of their mistakes. This is the area generally contemplated when you purchase professional liability insurance. The civil law seeks to compensate persons injured when a member of your profession fails to live up to the standards expected of him. In doing so, the civil law influences, and exercises some control over the manner in which you practice pharmacy. It is usually the only effective method by which a layman can influence the procedures and techniques utilized by your profession. The "rules of law" established in civil cases establish precedents and guidelines which affect and influence the standards established by your own professional association. This, in general, is its dual purpose; to compensate, and to regulate.

Standard of Care

Civil liability is always based upon a pharmacist's violation of a duty to a patient which the law imposes upon him. Every case presents this issue, that is, did the conduct of the pharmacist fall below the standard of care to which the patient was entitled? In each case, this question must be answered by a judge or jury, based upon the facts of the particular case, together with their knowledge and understanding of your profession which

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has been presented to them by the attorneys for both parties. After all this information is given to a jury, they are told that the standard of care usually required is that of "reasonable" or "due" care under the circumstances. Needless to say, this is rather vague. However, when dealing with a pharmacist, the law elaborates on this standard by emphasizing the pharmacist's responsibility for the safety of his patient. Some typical quotations are as follows:

"The standard of care required of a druggist or pharmacist is usually referred to as reasonable or due care under the circumstances. Since the druggist's position of responsibility to the general public and the community in which he engages in his trade is of such an important nature, the degree of 'reasonable' or 'due' care in actuality is the highest degree of care."

More specifically:

"All the authorities agree, and the very necessities of the case require, that the highest degree of care known to practical men must be used to prevent injuries from the use of drugs and poisons. It is for these reasons that a druggist is held to a very special degree of responsibility. The care required must be commensurate with the danger involved. The skill must correspond with the superior knowledge of the business which the law requires."

At first glance, it may not appear that the choice of words is important. It may not seem that there is any practical difference between "reasonable degree of care under the circumstances" and "the highest degree of care under the circumstances." By actual definition, there is probably little, if any, difference. However, the choice of words may have a very real impact upon a jury composed of laymen. The practical application of these "legal rules" by a jury is necessarily highly subjective. When the plaintiff's attorney makes his closing argument to a jury, he can make very effective use of the phrase "highest degree of care" to influence the attitudes of the jury toward the pharmacist-defendant.

"Civil liability is always based upon a pharmacist's violation of a duty to a patient which the law imposes upon him."

One additional embellishment upon the law's definition of the standard of care for pharmacists should be mentioned before specific situations are discussed. For many years, the law effectively protected the medical profession through various procedures and rules of law. Many cases which today would be submitted to a jury for their decision were decided by the court. Even though it was a jury case, the "rules of law" were interpreted by the judge so as to eliminate any possibility of negligence and justify him in deciding the case in favor of the physician, without necessitating the submission of the case to an unpredictable, and sympathetic, jury. One of the ways that this was accomplished was through the definition of "standard of care." The law said that the standard must be established with reference to the particular locality in-

volved. Thus, if a Traverse City, Michigan, doctor was accused of negligent conduct in his use of a particular procedure, and that procedure was now antiquated by recent advances in knowledge and technique made in large metropolitan areas, such as Detroit, Michigan, the physician could avoid responsibility by proving that the physicians in Traverse City all followed the practice used by him. If all doctors in a particular locality followed the same practice, however unwise, and despite injuries having resulted, they still would have met the standard of care required of them by law. The jury was not even given the opportunity to express an opinion. There was some logic in this approach. There was no justification for permitting a sympathetic and unpredictable jury to hold a physician liable for his failure to utilize a procedure which was available to only the most advanced well-staffed and well-financed hospitals in Southern California. However, modern technology, education, transportation and communication have made that approach illogical. Today, the standard of conduct is not necessarily established by local practice. It will be up to a jury to decide whether that local practice is a reasonable standard under the circumstances. They may conclude that the physician's failure to adopt the techniques in use in Detroit was not justified. Note that it is the jury, not the judge through his manipulation of legal rules and definitions, that is making this decision. Although the rules of law may still impose some limits, they now generally permit the jury to consider all of the scientific, technical, economic and other practical considerations which may influence the question of whether a local physician, hospital, or in your case, pharmacist, should have utilized a system, technique or procedure used elsewhere, once they are satisfied that its use would have eliminated the error which occurred in their case. Again, this gives the attorneys representing injured persons relatively wide latitude in presenting to the jury the most modern, safest systems and techniques used by a profession anywhere, and claiming that it would have been feasible for the defendant physician, pharmacist or hospital to have adopted such a system or technique, if it would have eliminated the possibility of an error such as that which occurred in the particular case.

This gradual change in the legal climate, and there is no reason to think that it will not continue, has encouraged injured persons to seek recourse in the courts, which is entirely appropriate. It is having significant, and perhaps unfortunate, consequences in the medical profession as the frequency of medical malpractice cases continue to rise. Whether a similar rise in pharmacist-malpractice cases will occur is impossible to predict. However, with an ever-increasing population and incidence of legitimate drug use on a per capita basis, combined with the proliferation of the number, types and uses of drugs, there are simply more opportunities for error which, when they occur in the existing legal climate, are likely to result in an increasing number of pharmacist-malpractice cases.

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In general, it can accurately be said that the legal obligations of today's pharmacist do not permit him to act as a silent servant of the medical profession. He is expected to inquire, advise and, where appropriate, take affirmative action to prevent or correct the errors of other members of the health-care team. Although this will inevitably create confrontation and conflict between the pharmacist and the nurses or doctors who may have performed, or still are performing these tasks, the pharmacist cannot afford to abdicate his responsibility in the face of such a conflict. The law will also require the pharmacist to place professional responsibility above business efficiency when and if the two concepts clash.

Proximate Cause

Looking at the application of the civil law to some specific situations, you should understand that in addition to the question of whether a pharmacist has acted contrary to the prescribed standard of conduct, there must also be a causal connection between his conduct and the plaintiff's injuries. "Liability" requires both to be present. For instance, a California pharmacist³ received a prescription for a propylene glycol and a cortisone cream, to be compounded into a lotion. The pharmacist failed to add the propylene glycol and dispensed only the cream. The patient filed suit against the pharmacist claiming that as a result of his error, the texture of the skin on her hands and arms changed. The pharmacist prevailed in the case by arguing that if the patient was allergic to the cortisone, which she apparently was, the adverse reaction would have occurred even if he had dispensed the lotion. Therefore, his error in failing to dispense the lotion was irrelevant, because it was not the cause of her injuries. Too often, however, pharmacists take solace from such a case. This pharmacist was negligent, and he made a mistake. Although the pharmacist won his case, it did not affect in any way the standard of care required of him by the law or his profession. The law seeks only to compensate the injured person, and holds the pharmacist responsible for the consequences of his mistake. If a harmless error has occurred, there need be no recovery.

Mistake In Filling Prescription

A common cause if litigation against pharmacists arises when he adds an improper ingredient when compounding, or an improper amount of an ingredient of one drug, or even simpler, he fills the prescription with the wrong drugs. In either case, there is usually little question about the pharmacist's liability.

A recent example occurred in a 1965 case⁴ against Rexall Drug & Chemical Co. where a patient recovered \$75,000 by establishing that her vasculitis was caused by an erroneously refilled prescription. The exact drug given to the plaintiff was not established, but the circumstantial evidence was sufficient to prove that it was penicillin or a sulfa drug, both of which have been associated with vasculitis. Vasculitis also develops as a complication of arthritis, from which plaintiff suffered, and from cortisone drugs which plaintiff had been taking for many

years. The plaintiff testified that he received some large yellow or white pills. Medical testimony indicated that allergic or hypersensitive vasculitis could result from penicillin or sulfa drugs, and that penicillin and sulfa drugs commonly come in the form of large yellow or white pills. There was little question that the pharmacist violated the required standard of conduct if he substituted the wrong pill in error. This case is a good example of a difficult causation issue resolved in favor of a severely injured plaintiff.

A 19 year old girl recovered \$70,000 from Walgreen's⁵ where, at age 16, and overweight, her doctor prescribed a weight reducing pill, but her pharmacist gave her anti-coagulant pills. As a result, she hemorrhaged from the right ear, right eye, and her nose, and she passed blood in her urine. Although largely recovered at the time of the trial, medical testimony indicated she had a 35% chance of developing epilepsy in the future.

In a 1961 Ohio case,⁶ a pharmacist took a prescription for a 3 year old girl over the telephone. He proceeded to include in the prescription an overdose of Secobarbital, which caused severe brain damage. A verdict of \$165,000 was returned against the physician and the pharmacist. This case emphasizes the precautions which should be taken by a pharmacist in taking a prescription over the telephone. It is a common technique, often necessary, but it should be done only when necessary, and then only with proper precautions and checks.

In a 1967 Connecticut case⁷ a physician prescribed a cold capsule containing 0.4 milligrams of Atropine sulfate, for upper respiratory infection in a 55 year old business executive. The pharmacist sold the executive 12 cold capsules, each of which contained 40 milligrams. The plaintiff suffered drug poisoning, unconsciousness, eye damage, and reactive depression for overdosage. He was forced to quit work for six months, lost opportunities for advancement and his life expectancy was shortened. He was awarded \$170,000.

Illegible Prescription

Another common problem confronting the pharmacist is the illegible prescription. The law is well established that the pharmacist has a duty to inquire of the prescribing physician when the prescription is illegible. In a 1912 Connecticut case⁸ a pharmacist interpreted a prescription calling for "calumba" as calling for "Calomel." Although this is an old case, the principle is no less applicable today. The fact that the prescription was illegible and thus, doubtful, imposed upon the pharmacist the duty of using all reasonable precautions to avoid supplying one ingredient when another has been prescribed. The more difficult question in that type of case will be whether the physician will be held responsible as well. This is the legal concept of "joint" liability. A judge or jury may well conclude that both the physician and the pharmacist were negligent. They will then evaluate the extent of the plaintiff's damages and return a verdict in that amount against both individuals. The law permits the plaintiff only one recovery, however. If the judg-

*a matter of professional interest to the pharmacist
from Merck Sharp & Dohme*

there's a great deal being said about hypertension these days... and it's being taken to heart

As a pharmacist, you are well aware that the cardiovascular complications of hypertension can mean early death or crippling disease: congestive heart failure, renal failure, stroke, myocardial infarction.

The prescriptions that you fill for diuretics and other antihypertensive medications are, along with proper diet and weight control, the best preventive measures known against these complications. And the increased number of these prescriptions may have led you to wonder whether the actual incidence of hypertension has risen.

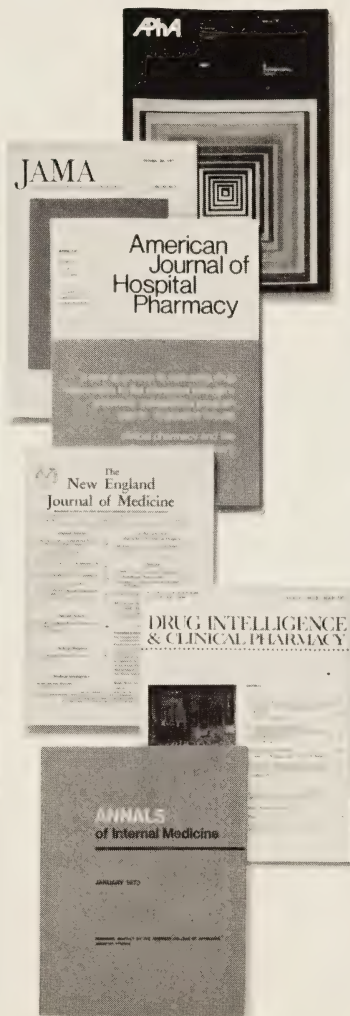
Perhaps it has. But not necessarily. Improved case-finding and physicians' decisions to institute drug treatment at an earlier stage of the disease could also be responsible.

At what reading does hypertension begin?

There are differing views as to where hypertension begins: some physicians say blood pressure readings of 140/90 mm Hg warrant further examination, while others use 160/95 mm Hg as the cutoff. But there is little doubt that a person's risk of developing the complications of hypertension is proportional to his blood pressure level.

Prompt detection and treatment urged

It can be expected that more people will become aware of their hypertension. An estimated 20 million Americans currently suffer from the disease.



A recent report in the *Journal of the American Medical Association* of a study conducted among nearly 23,000 adults employed in the Chicago area revealed that most who had high blood pressure did not know of their condition and that few of those who knew about it were receiving adequate treatment.¹ The editors of the journal urged doctors to "take a more responsible view toward [this] treatable illness."²

A growing body of evidence suggests that prompt detection and treatment substantially lower the risk of serious complications. Toward that end, the creation and funding of a National Hypertension Program were announced in 1972 by former Secretary of Health, Education and Welfare, Elliot L. Richardson.

Vital, growing role of pharmacist

Dr. Theodore Cooper, Director of the National Heart and Lung Institute, which is the focal point for coordinating the activities of this program, views the pharmacist as contributing to its success "both in his capacity as an actual 'health educator' and advisor to the public and in his capacity as a colleague of the prescribing physician."³

1. Schoenberger JA, Stamler J, Shekelle RB, Shekelle S: Current status of hypertension control in an industrial population, *JAMA* 222:559, Oct 30, 1972. **2.** Hypertension: A neglected phenomenon, editorial. *JAMA* 222: 579, Oct 30, 1972. **3.** Cooper T: The National Hypertension Program, *J Am Pharm Assoc NS13*:135, March 1973.

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ment were for \$50,000 the plaintiff could collect all of it, or any portion of it, from either or both the pharmacist and the physician. If either the pharmacist or the physician pays more than one-half, he would be entitled to collect the amount he paid in excess of his one-half from the other. As a practical matter, this places the risk of uncollectibility on the defendants, not the plaintiff. If, as would rarely be the case, the pharmacist was wealthy and collectible, or able to pay, and the physician was just struggling along, the plaintiff could collect the entire \$50,000 from the pharmacist. The pharmacist's right to collect \$25,000 from the doctor would be worthless.

Unusual Or Fatal Dosage

A pharmacist is expected to recognize a prescription calling for an unusual or fatal dosage. Here again, it is his legal and professional responsibility to be aware of the proper dosage. Any failure to do so would result in responsibility for the consequences. The only difficult question would be whether the prescribing physician could exonerate himself by pointing to the pharmacist's intervening negligence. Although your profession is sometimes apprehensive about the attitude of the medical profession toward your professional responsibilities, you can rest assured that a prescribing physician whose error you failed to notice and correct will suddenly begin telling you and the jury about the superior training and responsibility the pharmacist must assume in the dispensing of modern drug products.

Drug Interaction

The fatal or unusual dosage cases will undoubtedly be used as precedents in cases involving a patient who is taking, or has taken medication, and suffers a severe reaction after taking another drug which is contraindicated in the presence of the first drug. Drug interaction cases may arise in several different ways. The most obvious cases involves a prescription calling for two drugs that are contraindicated in the presence of each other. Despite the ever increasing complexity of this area of your profession, it is likely that the courts, or a jury, will conclude that a pharmacist has a responsibility to discover and protect the patient from such an interaction. This is what a pharmacist is educated to do. Just as the older cases required the pharmacist to take affirmative steps to protect the patient against a fatal dose, so will he be required to take affirmative steps to protect the patient against drug interaction. A more difficult case would be presented by a patient who is taking one drug, and goes into the pharmacy for a second drug, which is contraindicated in the presence of the drug he is already taking. If he has never visited your pharmacy before, can you be expected to know? In this situation, you may be able to convince a jury that you had no reason to anticipate this possibility. However, you can assume that the plaintiff's attorney will contend that you had an affirmative duty to find out from the patient what drugs he was taking. This argument may be sufficient to present a jury question and, if it does, and the plaintiff was severely injured, you may well be held responsible. If the patient had pur-

chased the first drug in your pharmacy, should you remember that service out of the thousands you might have made in the interim? That is probably an unreasonable requirement, since no one has that kind of retentive powers. However, you knew that when you dispensed the first drug. You knew you would not remember the service. You also knew that some drugs are contraindicated for other drugs. You knew that the consequences can be monstrous. The patient probably didn't know that. Perhaps his physician did, but you, as a pharmacist should be in an even better position than a physician to know it. So the plaintiff's attorney will pose a simple question: Why didn't you write it down? He will then drag out all of the literature published in your profession over the past five years about patient profiles. Why didn't you record the date, amount, dosage, and kind of prescription you previously sold? Isn't this what the leaders of your own profession have established as the best, the safest procedure? What will your answer be? It is too costly and therefore impractical? Do you say that you do keep a patient profile, but that all you record is the date, the charge and prescription number for the patient's income tax records? I would not envy your position on the witness stand when a plaintiff's attorney representing a permanently injured young business executive with a wife and two children asks you what your definition of a profession is, and whether your failure to record one or two pieces of information on that patient's card was not placing your personal business interests ahead of your professional responsibility as a member of the health care team charged with the responsibility for the care, treatment and safety of its patients, and I particularly would rather be in the attorney's shoes when he quotes from one or two of your professional journals as he asks you these difficult questions. After all, he gets paid one-third to fifty percent of the recovery! Although this may seem humorous, it is inserted for a reason.

Pharmacist malpractice cases, as do all cases involving drug induced injuries, typically involve severely injured plaintiffs. I have no statistics to compare the average recovery in a pharmacist malpractice case with those in other types of cases. Perhaps the best reflection is in the insurance policy limits recommended and usually carried by the members of your profession. If you told your agent you wanted to carry the same minimum amount as is required of automobile drivers in Michigan, \$10,000, he would undoubtedly recommend that you seriously reconsider that decision. The net effect of this is that the cases brought against your profession are big cases, involving the best and most highly paid plaintiff's attorneys, who have the incentive, and can afford to spend the time necessary to educate themselves about your profession so as to present it to a court or jury in the light most favorable to his client's position, because that is his only job.

Returning to the patient profile, and looking again at the first patient we discussed with reference to drug interaction, the patient who purchased his first drug elsewhere, why didn't you open a patient profile, at which time you would have asked him about the drugs he is, or



What does man have in common with Samson?

Neither man nor the gorilla can synthesize vitamin C. Interestingly, the slow loris, a primate much further down the evolutionary scale, can convert L-1,4-gulonolactone to ascorbic acid in its liver and presumably does not require an exogenous source of ascorbic acid.

Because man can neither synthesize vitamin C nor store most of the water soluble vitamins, these nutrients must be replenished continuously in order to

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has, taken, and whether he has a patient profile at any other pharmacy? For example, he may just have moved to your area from elsewhere.

The final and most difficult interaction cases involve dispensing of over-the-counter items. By now you are all acquainted with the results of the study conducted in Ohio with Dristan and Orinase, which was published in the A.Ph.A. Journal last year. Do you have any legal exposure here? That is a question that cannot be definitively answered. Again, you are aware of the hazard. Would a patient profile disclose this to you? Should you inquire of the patient?

In this situation, assuming the over-the-counter item contains instructions and warnings with respect to the possible adverse interaction, the question of the patient's own responsibility for his injuries would be presented by way of the contributory negligence issue. Faced with a severely injured plaintiff who knows nothing about drugs, and your admission that you were aware of the potential problem, it is certainly possible that you would be held responsible. This would be even more likely if your prior dispensing of prescription drugs should have disclosed to you that the plaintiff was being treated for a condition, or was taking drugs, which might have put you on notice of a potentially hazardous situation.

Conclusion

The law simply requires any pharmacist to follow reasonably safe practices and procedures in the practice of his profession, so the public in general, and his patients in particular, are adequately protected. The civil law is just one of several devices which serve to maintain the standards in your profession. It is probably, however, the most subjective and difficult to predict. You can respond to a regulation passed by the state board of pharmacy. It is a reasonably clear directive. A "rule of law," however, may receive a different interpretation by each judge or jury called upon to decide an issue. As your profession conceives new and safer procedures, such procedures will become a part of the store of knowledge about your profession retained by plaintiff's attorneys. Whether the procedure is really practicable or not, a plaintiff's attorney may persuade a jury that you should have used it, that it would have prevented an error, and that you should be held responsible for that error. For instance, hospitals have gradually been eliminating the floor stock system in favor of unit dose. It may seem to some of you that unit dose is new, and that it is not practicable for you to have such a system in a certain hospital. However, I want to read a quotation from AMERICAN JURISPRUDENCE, which is one of the most widely published legal publications and one to which virtually all attorneys have access.

"Medication errors in hospitals, which have been found to average one mistake for every 7 doses administered in typical voluntary institutions, can be cut by more than 50% by a change in drug dispensing procedures, according to a recent report presented to the pharmaceutical sciences of the American Association for the Advance-

ment of Science by Kenneth N. Baxter and co-workers in the drug systems research office of the University of Arkansas Medical Center Hospital in Little Rock. The investigators reported that the biggest improvement can be brought about by switching to the unit dose dispensing system which delivers each dose to the nurses in pre-measured, packaged, labeled, and ready to administer form. The investigators asserted that further reduction of error can be achieved by channeling the prescription, compounding and administration information through modern data processing equipment to minimize mistakes that occur simply because of faulty communications."

This is included not to prove the truth of the facts recited, but to demonstrate the type of knowledge about your profession which is available to any attorney. If a dispensing error has been made by a nurse (which is not an unusual occurrence), a hospital chief pharmacist may find himself as a defendant in a lawsuit attempting to defend the floor stock system. You would probably prefer to be in the position of claiming that you recommended unit dose, but the hospital administration vetoed the idea. This may be a sufficient defense. If you haven't, you may find the hospital, in the same case, claiming that their pharmacist failed to recommend such a procedure.

Precisely because this civil law, in its application, is so subjective and unpredictable, there is no way to protect yourself in every situation. All you can do is incorporate the best and safest procedures recommended by your profession, and therefore place yourself in the position to defend any suit. Then purchase the best professional liability insurance you can get, in sufficient policy limits to protect you against the potentially large damage awards which may be rendered today. In deciding upon the amount of coverage you desire, take into consideration the fact that the plaintiff can collect any amount of his judgment which exceeds your policy limits from you.

To some extent pharmacy, like any other profession, can minimize its legal exposure by limiting access to information concerning the safest procedures which might be used in the practice of pharmacy. However, considerable sacrifice of professional responsibility would be required to gain this questionable advantage. It is certainly the responsibility of any profession, particularly the medical and medically-associated professions, not only to utilize the safest techniques, but also to advance the quality of the profession through continuing education of its members. If a profession seeks the financial rewards commensurate with the responsibility they assume, then they must assume as much responsibility as they are qualified to accept. Inevitably, business interests and professional or social responsibilities seem to clash. More often than not, however, the reverse is true. For example, industry's initial reluctance to incorporate safety features in their products, or to install effective environmental control devices was a direct result of their fear of the economic consequences of these supposedly inefficient and unprofitable activities. Today, however, industry is discovering that these activities are marketable and profitable. So too many pharmacists look at a patient profile as an inefficient

waste of time, even if they acknowledge its value to patient safety. Yet those who use it now recognize its value in attracting and holding customers and patients. Those who cannot be convinced to adopt such a technique on terms of professional responsibility should be convinced on terms of sound business technique. The same is true of unit dose in a hospital. There is nothing in the civil law which really conflicts with or restricts the practice of your profession, nor should there be.

Finally, pharmacists, as professionals, have traditionally been apprehensive about their professional identity. One thing is clear from this analysis of the pharmacist's professional liability: If a pharmacist seeks encouragement, and he wants professional recognition from other professions, the best way to do it is to become a defendant in a pharmacy malpractice case. There is absolutely no question about the high degree of care that a court, and a jury, will expect of you. You may rest assured that the plaintiff's attorney will be most persuasive in emphasizing that the standard of care is a reflection of the tremendous responsibility assumed by a pharmacist each time he dispenses a prescription, a fact which is further emphasized by the educational requirements which are a prerequisite to the practice of pharmacy. Whether or not your profession has adequately educated the other professions or the public to this effect, the law considers pharmacy to be a profession requiring the utmost care of its practitioners.

Index

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Maryland Poison Information Center
University of Maryland School of Pharmacy

Many ingestions reported to the Maryland Poison Information Center (MPIC) are nontoxic and thus require no treatment. Either the agent itself is nontoxic, or the amount ingested is small enough that no toxicity is expected. By identifying an ingestion as nontoxic, one avoids unnecessary over treatment. The following list contains products commonly found around the home that are generally nontoxic in the amounts usually ingested.

Acetone (nail polish remover). Fatal dose is 50-100 ml. Comes in 1 oz.-3 oz. bottles, and would cause no problem if 1 oz. bottle were ingested. However, if 3 oz. bottle were ingested, emesis should be induced (depending on size of child).

Aerosol Sprays. The most common propellants are the freons. In ordinary exposure they are harmless, but in deliberate, concentrated inhalation they have caused rapid death, possibly due to sensitization of the myocardium, and local obstruction of larynx.

After Shave Lotions. Contains alcohol, water and perfume. See Alcohol Drinks.

Airplane Glue. These adhesive products are resins with a solvent to keep them fluid. The solvent is usually largely composed of toluene and not harmful unless deliberately inhaled in high concentrations as in glue-sniffing.

Alcohol Drinks. The ethyl alcohol present may cause the common signs of intoxication. In a few cases, in children, it has been reported to cause hypoglycemia. Large amounts may be dangerous.

Ball Pen Inks. In the amounts available in ball point pen cartridges the ink is not a hazard.

Bath Tub Floating Toys. Water, or a water-glycerin combination, and sometimes mineral oil are found inside of these toys. Occasionally an oil with a strong kerosene odor has been reported. The latter should be suspect for producing chemical pneumonia. (Proof is by production of greasy spot on paper.)

Battery (dry cell). Flashlight and pen-type batteries are not swallowed, but may be bitten into by children. A conventional flashlight battery (Size B) contains only 1/5 of an MLD (Minimum Lethal Dose) of mercuric chloride for a child. Other ingredients would not be expected to cause harm in amounts present.

Beer. The ethyl alcohol present may cause the common signs of intoxication. See Alcohol Drinks.

Bleach (sodium hypochlorite) — Household Bleach 5%. If ingested by a child it may cause mild GI upset and child may vomit, but no therapy warranted; but if commercial bleach (20%) is ingested it must be treated

as an alkali poisoning. Bleach mixed with bowl cleaners or ammonia forms chlorine or chloramine gas. Both are irritating if inhaled but the latter has more transient symptoms.

Body Conditioners. Contain alcohol, water and perfume. See Alcohol Drinks.

Bubble Bath Soaps. These are composed of detergents. If a child drinks it from bath water, the most toxic effect expected would be vomiting.

Candles. Neither beeswax nor paraffin, with or without scent or color, is likely to cause symptoms.

Caps for Toy Pistols. The toxic ingredient is potassium chlorate present at approximately 4 mg/cap. The estimated MLD for a child is 4 to 5 grams of potassium chlorate which would make a roll of caps non-toxic.

Cigarettes. One cigarette or cigar contains a large amount of nicotine. However, the absorption of nicotine from tobacco apparently is delayed. The initial absorption causes vomiting, removing much of the tobacco from the stomach. Since nicotine is a liquid volatile alkaloid, it would not be expected to be present in cigarette ash in significant amounts.

Cocktails. The ethyl alcohol present may cause the common signs of intoxication. See Alcohol Drinks.

Colognes. Contain alcohol, water and perfume. See Alcohol Drinks.

Crayons. Those bearing the C.P. or A.P. designation are non-toxic. Do not confuse children's crayons with industrial crayons.

Contraceptive Pills. Emesis unnecessary even with large dose. Only symptom may be mild GI upset (and occasional minimal vaginal bleeding in young female patients).

Cosmetics and Skin Preparations. Generally assume 2 gm/kg as a fatal dose. #3 toxicity rating (500 mg-5 gm/kg). According to Gleason et al.

Dehumidifying Packets. Medicine bottles frequently contain small packets of moisture absorbent materials, most often dried silica gel or charcoal, and are non-toxic.

Deodorizer Cakes. Blocks are usually p-dichlorobenzene and less commonly naphthalene. The latter is more toxic to those with a glucose 6-phosphate dehydrogenase deficiency. Both these products should be removed from the stomach if child has eaten as much as a teaspoonful.

Fish Bowl Additives. These products contain chemicals used to control the amount of chlorine or to kill fungi. Since small fish tolerate these chemicals, they would not be expected to be harmful to children. At the most, these products might cause GI symptoms.

Fluoride Caries Preventive Tablets. No emesis necessary even if large quantities taken (up to 60). Adult toxic dose 5 gms. Dose per tablet or per 5 drops is 1 mg.

Fluoride Insecticides. Do not fit the category and are extremely toxic.

Golf Balls. The child who peels the ball down to its fluid core might experience an explosion of its liquid contents due to pressure. The most serious effect reported has been a mechanical injury to the eyes.

House Plants. There is very little information on the toxicity of most house plants. When no information can be found, we may assume that they are non-toxic in small amounts, since they are frequently ingested without reported symptoms. However, it is better in any plant ingestion to induce emesis unless the plant is unquestionably known as human food. Plants producing poison may have action from:

- a. Cyanide (choke-cherry, elderberry, cherry-laurel)
- b. Atropine (deadly night shade, jimson weed)
- c. CNS stimulant (daphne, water hemlock, azalea, snow-on-the-mountain)
- d. Digitalis (oleander, lily-of-the-valley, foxglove)
- e. Hemolytic Agents (castor bean, jequirity bean)
- f. Aconite (monkshood, wolfsbane)

Marking, Indelible, and Special Purpose Inks. Must be held suspect because of the possibility that they include aniline dyes or toxic solvents (but if child sucks on these, a small amount would probably be subtoxic).

Matches. Less than 20 wooden or two books of paper matches do not contain enough potassium chlorate to be harmful to a child. (Toxic dose is 450 mg/kg and 20 match tops=220 mg. of chlorates).

Model Cement. These adhesive products are resins with a solvent to keep them fluid. The solvent is usually largely composed of toluene and not harmful unless deliberately inhaled in high concentrations as in glue-sniffing.

Paint. Toy, crib, windowsill, and wall paints are non-toxic if just a few flakes are ingested. However, repeated ingestion of outdoor paint chips may lead to serious lead poisoning. Some paints in liquid form contain petroleum distillates and thus pose an aspiration hazard.

Pencils. Lead and coloring pencils may be considered non-toxic. Even if they contain toxic pigments, coloring pencils ordinarily would not be ingested in toxic amounts. Lead pencils contain graphite—not lead.

Plastic Cement. These adhesive products are resins with a solvent to keep them fluid. The solvent is usually largely composed of toluene and not harmful unless deliberately inhaled in high concentrations as in glue-sniffing.

Porous Tip Ink-Marking Devices (felt tip markers). The Federal Hazardous Substances Act exempts these devices providing they meet certain requirements. Therefore, the ingestion hazard is low.

Play Doh. This is composed of edible, digestible ingredients.

Polaroid Pictures. The pod that breaks to develop the picture contains a small amount (1 cc) of highly alkaline material (pH 13-14). The fluid used to coat the photograph is not harmful.

Putty. Unless more than 2 or 3 ounces are ingested at one time there is no cause for alarm. If larger amounts are ingested, there probably should be more concern for mechanical obstruction rather than chemical toxicity.

Roach Tablets. May contain a number of chemicals, including arsenic and boric acid. However, the child in most cases eats only 1 or 2, and has no significant symptoms. All insecticides are labeled as to ingredients.

Sachets. Used in drawers or closets, they usually contain an inert or edible powder that has absorbed essential oils. There is probably more danger from a massive inhalation of the powder than from ingestion. Those containing crushed petals have not been reported to cause problems.

Shaving Creams. Aerosol shaving creams usually contain a soap. Most have a perfume and some have menthol and antiseptics in small amounts. The most serious symptoms resulting from ingestion would be vomiting. The new Thermal shave creams contain 8 to 10% of sodium or potassium sulfite in the soap base with a 9% hydrogen peroxide solution in a separate compartment. These are mixed as dispensed from the container producing a controlled exothermic reaction. The resultant soap base contains about 10% of the sulfate salt and a small remainder of unreacted sulfite, but would have little toxicity.

Silly Putty. Made of silicones and 1% boric acid. No problems anticipated, although there are warnings of possible obstruction if large amounts are ingested.

Smoke Pellets for Train Sets. These are usually supplied as capsules containing mineral oil or deodorized kerosene. If the kerosene containing pellet is chewed before swallowing, there is danger of aspiration and chemical pneumonia.

Soaps. Ordinary bar soaps may cause vomiting if ingested, but no other toxic effects are expected. Those bar soaps which contain antibacterial substances do not present additional hazards because of the small amounts present, and the small quantities which are usually ingested.

Teething Rings. These usually contain water (sterility questionable) or a glycerin-water combination.

Thermometers. Broken glass may cut the mouth of children. The amount of mercury present is small and is present as metallic mercury which is poorly absorbed from the GI tract and thus not harmful.

Toilet Water. Contains alcohol, water and perfume. See Alcohol Drinks.

Tooth Paste. Considered non-toxic but those containing stannous fluoride have caused vomiting.

Vitamins. Up to 60 to 100 daily dose of vitamins A and D can be tolerated in one dose without symptoms.

Friedman Receives Honored Alumnus Award

Milton A. (Mickey) Friedman, proprietor of Harris' Pharmacy in Baltimore, received the 1974 Honored Alumnus Award of the Alumni Association, University of Maryland School of Pharmacy. The award was presented at the Alumni Association's 48th Annual Graduation Banquet held at Eudowood Gardens on May 29.

Mr. Friedman, a native of Baltimore, graduated from the School of Pharmacy in 1934. He has been active on various committees of the Alumni Association and served as President for the year 1962-1963. He also served as State Chairman for National Pharmacy Week from 1957 to 1960 and as the representative from the Maryland Pharmaceutical Association to the National Diabetes Week effort for many years.

Mr. Friedman is a member and Past President of the Maryland Pharmaceutical Association and is a member of the Baltimore Metropolitan Pharmaceutical Association, the National Association of Retail Druggists, the Heart Association of Maryland and the Maryland Diabetes Association. He has also been active in civic affairs throughout the city and was the organizer of the free breakfast for disadvantaged children of the schools in his area.

Winner of many national competitions for merchandise displays, including first prize in the National Pharmacy Week display contests of 1954 and 1960, he was chosen national prize winner in the Vicks Crusade for CARE, and became a goodwill ambassador to Europe, carrying American Pharmacy ideas to fellow pharmacists in Italy, Greece, Turkey and France. More recently he won the Sylvania 1974 Display Contest which included a trip around the world.

Maryland Society of Hospital Pharmacists

New members who have recently joined the Maryland Society of Hospital Pharmacists are: David A. Custer, A. Herbert Holmes, Jr., James J. Mallonee, Jr., Edward P. McCusker, and Jacquelyn Lord Means. New student members include: Paul Fader, Pamela K. Lindsay and Daniel R. Weber, Jr.

The following associate members have also recently joined the Society: Ronald M. Cohen, Marie C. Fischer, Richardo B. Hall, Ronald C. Hardnock, Susan Carol Howlett, Clarence Russell, Edwin F. Severn, Philip R. Swisher and John B. Wheeler.

The Society will hold its Ninth Annual Seminar at Williamsburg, Virginia, June 28-30, 1974.



—Photo by Paramount Photo Service

Clockwise from upper left: Charles A. Sandler, outgoing President of the University of Maryland School of Pharmacy Alumni Association, presents plaque to incoming President Charles H. Tregoe. Robert Zepp, President of the 1974 graduating class. H. Nelson Warfield is presented a plaque on his recognition as Treasurer Emeritus by Samuel A. Goldstein. Dr. Samuel I. Fox, 1971 recipient of the Honored Alumnus Award, presents the 1974 Honored Alumnus Award to Milton A. (Mickey) Friedman.

A.Z.O. News

Kappa Chapter of the Alpha Zeta Omega Pharmaceutical Fraternity met on June 19 at the Suburban House Restaurant. Plans for the coming year were discussed. The Annual Installation Brunch will be held at the Tail of the Fox on July 21. A buffet lunch with a noted guest speaker is planned. The AZO Annual Crab Feast will be held on August 25 at Gordon's in Pikesville.

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Baltimore Metropolitan Pharmaceutical Association

The Baltimore Metropolitan Pharmaceutical Association held a meeting on May 16 at the Quality Court Motel in Pikesville. Committee reports were delivered by Paul Freiman—Legislative and Convention Committee; Charles Spigelmire—Public Relations Committee; Melvin Rubin—Newsletter, Employee Pharmacists and Third-Party Programs Committee; Henry G. Seidman—Continuing Education Committee; and by Executive Director Nathan I. Gruz.

The following are highlights of the actions taken at the meeting.

Agreed to support a BMPA member in possible legal action taken against the State Medical Care Services Program for non-payment of prescriptions dispensed to patients presenting valid temporary Medical Assistance cards.

Decided that a ratio of technicians to pharmacists could not be established until the duties of each were clearly defined. Sentiment was for no more than one technician per pharmacy. Referred to Standards of Practice Committee of MPhA and suggested the committee work with the State Board of Pharmacy in developing regulations.

Voted to send letters to two pharmaceutical manufacturers taking a stand against their sampling practices which obligate pharmacists to dispense prescriptions and be repaid with samples rather than by financial remuneration for professional services rendered.

Discussed three-part prescription forms for controlled drugs and decided this would have merit only if physicians' names were imprinted on each blank rather than numbers only and only if physicians were held accountable for all forms in their possession. Otherwise forgeries might increase rather than decrease.

Discussed and approved mandatory continuing education provided reasonable safeguards regarding relicensure requirements are included. It was generally felt that exposure to continuing education programs would serve the purpose and that examination would not be required.

Announcement was made that the Internal Revenue Service had audited the MPhA books and that they found all to be in order. The convention trips met necessary requirements for deduction as a professional expense on tax returns. However, deduction for wives' portions of the trip are not allowed.

At the May Executive Committee of the BMPA, the committee voted to recommend that the APhA establish a National Pharmacists Political Action Committee; voted to work with the Baltimore City Reward Fund to add to the reward money when a pharmacist *in good standing* in the BMPA is a victim of a holdup in a pharmacy; discussed the increasing budget requirements for

public relations and established February 9, 1975 as the date of the Annual Installation Banquet.

Prince Georges-Montgomery County Pharmaceutical Association

The Executive Committee of the PG-MCPhA met on May 14, 1974. Edward Sandel reported on the Montgomery County Office of Drug Control proposal to place exempt narcotic preparations on prescription only status. It was agreed that the Association would send letters to the appropriate agencies in Prince Georges and Montgomery Counties in support of legislation for this purpose.

Edward Nussbaum explained the use of the Personal Contact Kits containing material for association membership and Installation Affair advertising. The kits were distributed to those in attendance.

S. Ben Friedman reported on the problem of physicians who are not licensed in Maryland but who are prescribing Schedule II drugs. It was pointed out that a Federal BNDD number is all that is required along with proper identification or verification of the prescription.

Edward Sandel reported on the upcoming Installation Affair. The 20th Annual Installation Ceremony was scheduled for June 9, 1974 at College Park, Maryland.

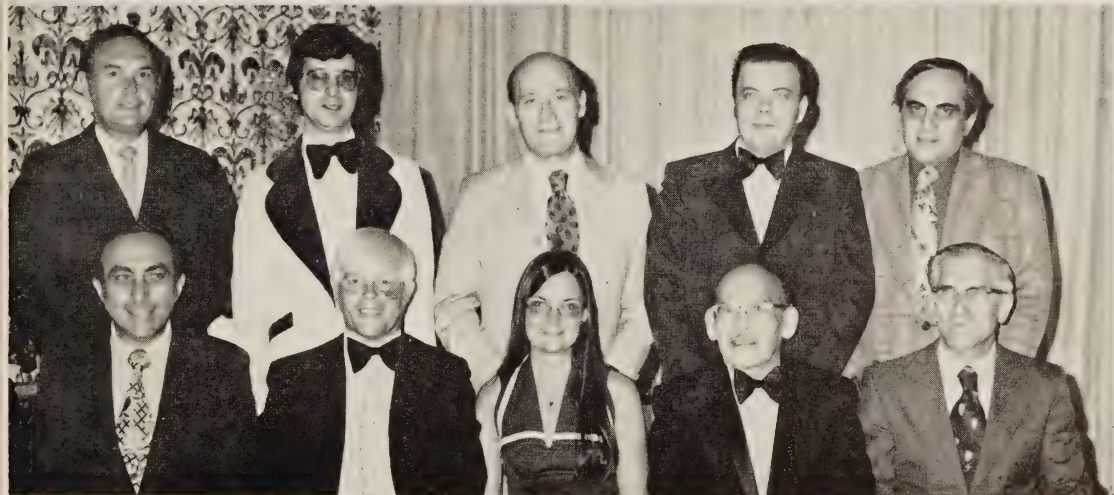
Metropolitan Guild of Pharmacists

The Metropolitan Guild of Pharmacists met on May 19, 1974 at the Charter House Motel in Alexandria, Virginia. The main item of business conducted at the meeting was the election of officers and directors. The Nominating Committee proposed the following names for election:

President	Arnold Smokler
Vice President	Leonard Rosenberg
Secretary	Lawrence Jacobson
Treasurer	Frank Wojick
Directors	
from Virginia—	George Barnes, Mac Grimmer,
	Murry Volkman
from Maryland—	James Larner, Robert Perchalski,
	Harold E. Rindy
from Washington, D.C.—	Larry Gussman, Victor
	Meszaros
from Baltimore—	Barry Bloom, James Harvey,
	Adrian LaChappelle

The slate of nominees was elected as presented.

Alumni Association, University of Maryland School of Pharmacy



—Photos by Paramount Photo Service

TOP PHOTO—Members of the Class of 1924 who received 50 year certificates at the 38th Annual Graduation Banquet of the Alumni Association, University of Maryland School of Pharmacy, May 29, 1974. Front row (l. to r.): Alford Robus Carey, Charles Edward Pfeifer, Mrs. Edna Danserau, George J. Rezek, Dr. Frank J. Slama; middle row: Paul G. Gaver, George M. Schmidt, past MPhA President; Oscar Samuelson, Frank Block, Dr. Hyman S. Rubenstein, Dr. Luther E. Little, Jacob Louis Kronthal, past BMPA President; Joseph Kern, Charles J. Schmidt, Joseph Poltilove, Nathan Cohn, Louis Davidov, Hyman Jacob Sussman, Henry Schapiro and Bernard ("Whitey") Levin.

LOWER PHOTO: Officers and Executive Committee members, 1974-1975, University of Maryland, School of Pharmacy Alumni Association. Front row (l. to r.): Leon Weiner, First Vice President; Charles H. Tregoe, President; Dorothy L. Levi, Executive Secretary; Samuel A. Goldstein, Honorary President; H. Nelson Warfield, Treasurer Emeritus; back row: Bernard Macek, Executive Committee; Charles A. Sandler, Chairman, Executive Committee and immediate Past President; Henry G. Seidman, Second Vice President; Ronald A. Sanford, Treasurer; and William Weiner, Executive Committee.

Washington Spotlight For Pharmacists

By

Mark Neil Levine — APhA Legal Division

FTC Orders Pharmacist To Retract on TV

The Federal Trade Commission has ordered an official of a Washington state pharmacy to appear on television to refute advertising claims for one of his products.

The FTC noted that the defendant claimed in a series of commercials that his product, a vitamin B complex "Super B", made the user feel and work better, would build up the user's blood and improve his physical and mental condition. Such claims misrepresented the product, according to the FTC.

The FTC also charged that the defendant claimed that Super B had been proven to be the best of its kind on the market, and that the FTC itself had endorsed the product.

The FTC order requires purchase of seven 60-second commercials to retract the product's earlier claims. The commercials are to be carried by the same station that presented the original commercials and aired at the same time.

In its order, the FTC stipulated the retraction must be made by the firm's president. In part, the retraction reads: "... contrary to what I have told you previously, Super B will not make you feel better . . . or work better on the job . . . Contrary to my previous ads, neither the FDA nor the FTC nor anyone else has recommended Super B or approved our prior claims."

Alabama Rx Code of Conduct Held Unconstitutional

A dispute involving the Revco drug chain and the Alabama Board of Pharmacy over prescription price advertisement has been won by Revco. A Montgomery Circuit Court judge ruled that the board's Code of Professional Conduct was unconstitutional.

The suit involved the right of Revco Drugs to advertise its senior citizens prescription discount plan—a right which the board claimed violated Alabama's professional conduct code. The board charged that the chain ignored repeated warnings about allegedly improper advertising.

Revco Southern Drug Centers filed suit in October, 1973, charging that the pharmacy board was illegally forcing Revco to stop offering and advertising drug discounts. The suit also stated that the board had threatened to revoke the licenses of the chain's pharmacists.

The Circuit Court judge permanently prohibited the Alabama pharmacy board from enforcing the conduct code and from preventing advertisement of cheaper drugs or the listing of various discounts.

Consumer Prescription Problems

What do consumers want? If a recent survey undertaken by the U.S. Food and Drug Administration is any indication, one out of every four consumers would like to see adverse reactions and cautions listed on prescription labels. One out of three wants the prescription label to

carry the name and quantity of the drug, while three out of ten want the label to indicate clearly the drug usage.

The FDA questioned consumers about their label-reading habits on OTC products. Results revealed that half of all consumers read all or most of the label, while 18 percent do not even glance at it.

The survey indicates that many consumers do not read labels because they cannot understand them. In fact, 5 percent of those surveyed claimed a language barrier prevented them from reading the OTC label, while 18 percent indicated that the prescription label language was too technical for them to understand.

Michigan Declares OTCs Ineligible For Medicaid Reimbursement

Michigan's Department of Social Services has hit pharmacies providing medication to nursing homes with a fiscal blockbuster. In a controversial decision the department ruled that OTC products such as epsom salts, aspirin, Maalox and cold products, once thought to be eligible for coverage under Medicaid, are, in fact, not covered.

Consequently, the department is seeking repayment of the money paid out to pharmacies for such products over the past 18 months. Some estimates indicate that OTC products account for as much as 30 percent of all medication provided Michigan nursing homes.

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Rho Pi Phi Seeks Lost Members

As Supreme Scribe of the Rho Pi Phi International Pharmaceutical Fraternity, I have been designated by Supreme Councillor, Stan Marks, to seek out members of the fraternity who have lost contact with us.

Many members have moved, retired from pharmacy, or gone into other businesses. They have lost contact with us, and we have lost contact with them. They are, however, still 'Ropes' and as such are entitled to participate in our various programs and benefits.

Former members not now on the Rho Pi Phi mailing list are requested to write me a note with their names and addresses.

Bernard Tucker
21330 Virginia
Southfield, Mich. 48076
Ph: 313-353-8139

Turner and Antkowiak Promoted by Gilpin

The appointment of E. Allan Turner to Manager of the Baltimore Division and the appointment of Frank C. Antkowiak to Manager of the Washington Division and Vice President of the Gilpin Wholesale Drug Company was announced by James E. Allen, Chairman of the Board and President of the Henry B. Gilpin Company.

Mr. Turner, with over 18 years of service with Gilpin, has an extensive background in company operations and customer service programs. Mr. Antkowiak,

with a Bachelor of Science degree in Business Management and over 27 years of experience in electronic data processing management, including seven years with Gilpin, will continue to serve as Director of Gilpin's Corporate Data Center in addition to his new roles of responsibility.

Obituaries . . .

Benjamin Davidov

Benjamin Davidov, 72, died on May 25. He was a 1925 graduate of the Milton College of Pharmacy and became registered in Maryland in 1926.

M. Perry Porterfield

M. Perry Porterfield, 83, a member of the Maryland Pharmaceutical Association, died on May 23.

Dr. Leonard Brill

Dr. Leonard Brill, 61, died on May 27. He graduated from the University of Maryland School of Pharmacy in 1933 and from the School of Medicine in 1937.

Louis J. Cohen

Louis J. Cohen, 94, a retired Maryland Pharmacist, died on June 5. He graduated from the Long Island College of Pharmacy and became registered in 1903.

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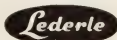
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Editorial—

Institutional Pharmacy—Special MPhA Focus

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by Gerald W. John, M.S., Vincent de Paul Burkhardt, M.S., and
Peter P. Lamy, Ph.D.

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Editorial . . .

INSTITUTIONAL PHARMACY SPECIAL MPhA FOCUS

The Maryland Pharmaceutical Association as the state professional pharmaceutical society is the recognized representative organization of the pharmacists of Maryland. MPhA has been actively working for realization of the concept of a unified profession of pharmacy. We believe that there are issues and values that are of vital concern to all pharmacists, whether their area is community, institutional, scientific, educational, administrative, manufacturing, wholesaling or other.

The area of pharmacy practice that has had the greatest growth in recent years has been the institutional-hospital, nursing home, extended care facilities, health centers and related health facilities.

In recognition of the essential role in the delivery of total health care of the institutional pharmacy sector, the Maryland Pharmaceutical Association with this issue is launching a special section in *The Maryland Pharmacist* under the heading of "Institutional Pharmacy."

With the appointment of Dr. Peter P. Lamy, Professor of Pharmacy at the University of Maryland School of

Pharmacy and Director of Institutional Pharmacy Programs at the University Hospital, as the Institutional Pharmacy Editor, we believe that we can contribute significantly to greater knowledge and understanding of developments in this field.

Information and expertise in institutional pharmacy is a prerequisite for every practicing pharmacist who is committed to maintaining a current state of knowledge. With many community pharmacists serving nursing homes, small hospitals and related health facilities, the lines of demarcation often cross over. Moreover, every pharmacist must be prepared to understand and utilize the latest data in clinical pharmacy, automation, management and the health care sciences.

We believe that the profession of pharmacy, not only in Maryland, but everywhere can benefit from this progressive innovation in state pharmaceutical journalism.

—Nathan I. Gruz

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University of Maryland School of Pharmacy

Honors Day Convocation, May 30, 1974

The 1974 University of Maryland School of Pharmacy Honors Day Convocation was held at the Health Sciences Library Auditorium on May 30, 1974. Dr. William J. Kinnard, Jr., Dean of the Pharmacy School, presided. The invocation was delivered by the Reverend Frank Harron, Protestant Chaplain for Students, Ecumenical Campus Ministry. Dr. Warren E. Weaver, Dean of the School of Pharmacy, Medical College of Virginia, delivered the address entitled "It Only Takes a Few!"

The Class of 1974 was presented by Dr. Larry L. Augsburg, Class Advisor, followed by remarks by Russel A. Gobeille, Class of 1974. The following awards were presented:

Good Medal for General Excellence....Russel Alan Gobeille
Certificates of Honor to holders of next highest

averages Carroll Guy Rusk, Jr.
Harold Douglas Harrison
Barry L. Keeler

L.S. Williams Practical Pharmacy Prize, to the senior student having the highest general average throughout the course in practical and dispensing pharmacy Nickola Louise Kuhn

Andrew G. DuMez Medal, for superior proficiency in pharmacy Russel Alan Gobeille

Conrad L. Wich Pharmacognosy Prize, for exceptional work throughout the course in pharmacognosy Carroll Guy Rusk, Jr.

William Simon Memorial Prize, for superior work in the field of practical and analytical chemistry Russell Alan Gobeille

Wagner Pharmaceutical Jurisprudence Prize, for meritorious academic achievement in pharmaceutical jurisprudence.....Walter Thomas Dolan

John F. Wannenwetsch Memorial Prize, to a senior student majoring in General Pharmacy who has exhibited exceptional performance and promise in the practice of community pharmacy

Harold Douglas Harrison

Kappa Chapter, Alpha Zeta Omega Fraternity Prize, to a senior student for proficiency in pharmacology Robert Jay Martin

Epsilon Alumnae Chapter, Lambda Kappa Sigma-Cole Award to a senior student for proficiency in pharmacy administration.....Elwood Lee Fletcher, Jr.

Maryland Society of Hospital Pharmacists Award, to a senior student who shows promise in the area of hospital pharmacy.....Pamela Kay Lindsay

In addition, Medals for Academic Excellence were presented by Dr. Larry L. Augsburg to the following members of the Class of 1974: John F. Bender, David L. Bennion, Sherry N. Berlin, Regina M. Fletcher, Russell A. Gobeille, Harold D. Harrison, Dorothy L. Humphreys, Janet M. Jones, Nickola L. Kuhn, Pamela K. Lindsay, Bonnie L. Pitt, Carroll G. Rusk, Jr., Ralph A. Small, Jr., Adrienne K. Watson, Hal J. Weinstock, Larry K. Westfall, and Jerry L. Wilhelm. Awards for Extra-Curricular Activities were presented to John F. Bender, Barry L. Luria, Dennis L. Myers, Jay R. Newirth, and Stanley J. Stefanoski.

David Porter was installed as President of the Student Government Alliance by John A. Bender, 1973-1974 SGA President. The Pharmacist's Oath was administered by Morris R. Yaffe, President of the Maryland Board of Pharmacy. Dr. Dean E. Leavitt served as Chief Marshal for the Convocation.

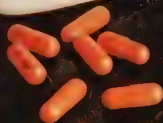
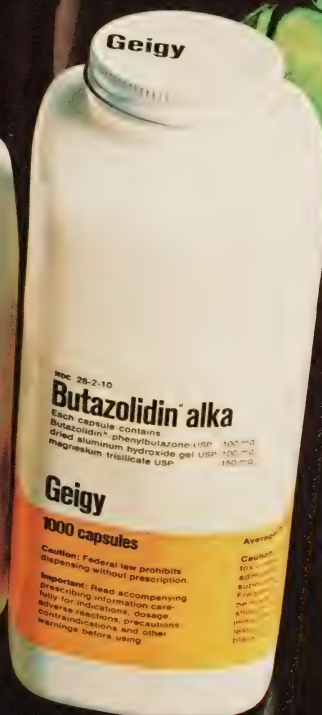


University of Maryland School of Pharmacy

Faculty members of the University of Maryland School of Pharmacy "Update of Pharmacy Laws" Seminar, June 9, 1974 (l to r): Henry G. Seidman, Moderator; Joseph Kaufman, Legal Counsel, MPhA and Lecturer in Jurisprudence, University of Maryland School of Pharmacy; Charles H. Tregoe, Chief, Division of Drug Control, Environmental Health Administration, Department of Health and Mental Hygiene and Secretary-Treasurer, Maryland Board of Pharmacy; Joseph D'Arco, Attorney, Office of Chief Counsel, U.S. Dept. of Justice, Drug Enforcement Administration; Carl DeMarco, General Counsel, A.S.H.P.; and Ted Byers, Director, Office of Compliance, Bureau of General Drugs, Food and Drug Administration.

—Photo by Paramount Photo Service

Legend drugs in their own time



Medicaid Information

State of Maryland Department of Health and Mental Hygiene Medical Care Programs Administration Pharmacy Bulletin

June 20, 1974

I. Submission of Pharmacy Invoices for FY '74

Fiscal Year 1974 ends on June 30, 1974. All Pharmacy Invoices for services rendered during FY '74 should be sent to Purchased Care Services for processing, by July 15, 1974. PLEASE BATCH PRE-JULY BILLS SEPARATELY FROM FY '75 BILLS. You may forward them in the same envelope, but separate them into batches by fiscal year.

II. National Drug Code (NDC)

In order to meet necessary Federal and State reporting requirements, the State must require pharmacists to include the NDC on all Medical Assistance prescriptions filled on or after July 1, 1974. As a result, effective July 1, 1974, prescriptions filled on or after the effective date will be returned to the provider if they do not include the NDC number.

Though the official number will in the future contain eleven (11) digits, the majority of the allocated NDC numbers presently have only nine (9) digits. The Prescription and Pharmacist's Invoice Forms, DHMH-235 and 236 now provide nine (9) spaces, divided as follows:

Labeler Code - 3 digits

Product Code - 4 digits

Package Code - 2 digits

NDC numbers on drug packages usually omit zeros so that they have less than nine digits. In entering NDC numbers, be careful to set each number in proper position in relation to the spaces on the claim form. For example: The NDC number for Alphadrol Tablets, 1.5 mg. is 009-0053-01. The drug package may show this number as 9-53-1. This number should be written on the prescription blank as: 009/0053/01.

When dispensing products for which no NDC code number appears on the package, the following numbers are to be entered in the appropriate blocks of pharmacy invoice form:

Medical Supplies or Non Drug Items	996-0000-00
Non-legend Drugs	997-0000-00
Compounded Prescriptions	998-0000-00
Legend Drugs	999-0000-00

III. Reorganization of the Medical Assistance Program

The Maryland Medical Assistance Program has been reorganized into the following three administrations:

A. *The Medical Assistance Policy Administration* is responsible for originating and clarifying policy. This administration is under the direction of Mr. James C. Eshelman. Inquiries may be addressed to the local health departments or Ms. Sue B. Fine at (301) 383-2827.

B. *The Medical Assistance Operations Administration*, formerly "Purchased Care Services" is responsible for bill processing and payment. The new name will appear on the back of future printings of Pharmacy Invoice forms. Bills addressed to either the Medical Assistance Operations Administration or Purchased Care Services will reach the proper department for processing. This administration is under the direction of Mr. Charles C. Putnam.

C. *The Medical Assistance Compliance Administration* ensures that health care services provided to eligible Maryland residents are appropriate, and available resources are effectively utilized. The administration is under the direction of Mr. Jerome Niport. Inquiries may be addressed to the Medical Assistance Compliance Administration, State Office Building, 301 W. Preston Street, Baltimore, Maryland 21201 or Mr. Norbert Lassahn (301) 383-6377.

State-Wide Fraud Squad In Operation

The Income Maintenance Investigative Unit (IMIU) investigates suspected frauds by Public Assistance-Medical Assistance recipients or providers. This unit is made up of Maryland State Police and Medicaid investigators, plus the Special Investigative Unit from the Baltimore Department of Social Services. Typical fraud cases would involve persons receiving assistance who have unreported or concealed assets or income, or when there is an unreported change in income or assets such as an inheritance, new employment or transfer of property. If these facts were known, the recipients would be ineligible for assistance or the continuation of assistance.

Please advise the IMIU if any situation exists where there is suspected fraud, such as a questionable scale of living or where income or assets appear to be greater than that of the normal assistance recipient. This unit has no

intention of intruding on the privacy of any citizens, but is only concerned with meaningful fraud that may be draining off Welfare-Medicaid funds to the detriment of honest and deserving recipients. Any information that is furnished will be treated confidentially. If known, it would be helpful if you could furnish the full name, address and assistance number, as well as any firm or person that could be contacted to obtain proof of facts relating to the suspected fraud.

Please send the information to James P. Brown, Coordinator-IMI, Room 1309, State Office Building, 301 West Preston Street, Baltimore, Maryland 21201—phone number: 383-2795, (Office of Medical Assistance Compliance Administration), or to the nearest Maryland State Police barrack.

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PHARMACY CALENDAR

September 29-October 4—National Association of Retail Druggists Annual Convention, MGM Grand Hotel, Las Vegas. MPhA "Las Vegas Holiday."

October 31-November 3—American College of Apothecaries Annual Convention, Alameda Plaza, Kansas City, Missouri.

December 8-12—American Society of Hospital Pharmacists Midyear Clinical Meeting, Bal Harbour, Florida.

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January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

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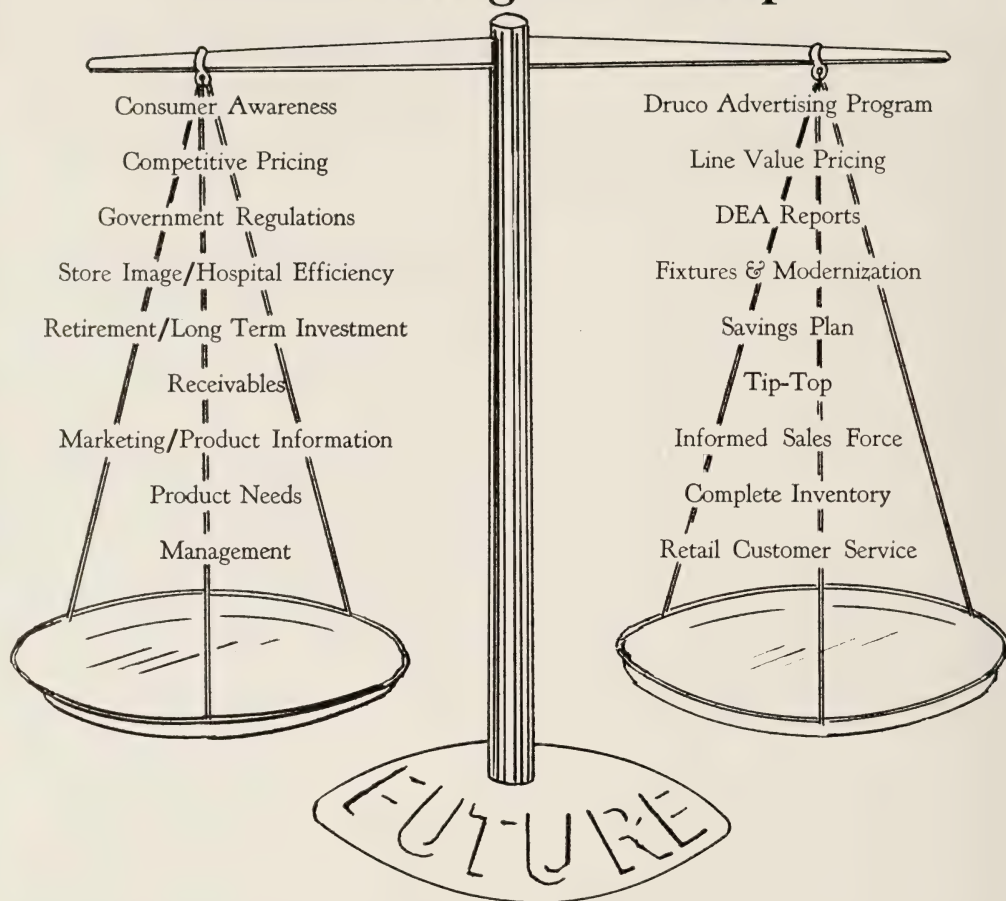
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Institutional Pharmacy Section

Peter P. Lamy, Ph.D., *Editor*

Institutional Pharmacy in Maryland *

by

Gerald W. John, M.S., Vincent de Paul Burkhardt, M.S.,
and Peter P. Lamy, Ph.D.

Pharmacy, as practiced in the institution and other structured medical settings, is changing rapidly. In response to both professional and societal forces, the profession has begun to depart from its traditionally passive role and has moved into the mainstream of health care delivery. Thus, a dynamic movement is underway as numerous "patient-oriented" services emerge to complement the "product-oriented" concept of pharmacy practice.

Four major identifiable factors are seen as being at work to effect these changes: the practitioner, the professional organization, the consumer and the government.

The Practitioner

One of the most influential factors involved in bringing about changes within the profession has been the practitioner. By instituting numerous new programs, progressive practitioners have greatly expanded the scope of pharmaceutical services.

While a variety of reasons have undoubtedly provided the impetus for the establishment of many of these programs, a primary motivation has been the practitioner's renewed awareness of the service aspects of his profession (1-3). This awareness has lead to the development of programs intended to better meet the needs of both patients and other health professionals.

Centralized I.V. admixture programs have been implemented in numerous institutions (4-6). By combining the principles of environmental control (7) and aseptic techniques (8) with the pharmacist's knowledge of drug stabilities and incompatibilities, these programs successfully promote safe and effective intravenous therapy. Moreover, by relieving nursing personnel of responsibilities which more appropriately belong to the pharmacist, these programs contribute to better patient care.

*Gerald W. John is a Resident in Hospital Pharmacy, Department of Institutional Pharmacy Programs, University of Maryland Hospital and a Graduate Student at the University of Maryland School of Pharmacy, Baltimore, Maryland.

Vincent de Paul Burkhardt is Assistant Director, Department of Institutional Pharmacy Programs, University of Maryland Hospital and Assistant Clinical Professor, University of Maryland School of Pharmacy, Baltimore, Maryland.

Peter P. Lamy is Director, Department of Institutional Pharmacy Programs, University of Maryland Hospital and Professor, University of Maryland/School of Pharmacy, Baltimore, Maryland.

Note: Please request references from the senior author at University of Maryland Hospital, Department of Institutional Pharmacy Programs, 22 S. Greene Street, Baltimore, Maryland.

The development of pharmacy-based centers for the collection and dissemination of drug-related information is another example of evolution from within the profession (9). Although the pharmacist has traditionally served as a source of drug information, it has only been recently that he has sought to establish it as a basic concept of his practice. In addition to basic information relating to drugs, e.g. physical and chemical properties, dosage ranges, etc., these programs are meant to provide patient-specific and therapeutically relevant data.

Many pharmacists are now emphasizing a clinical component of institutional pharmacy practice (10-12). The clinical pharmacist functions in the patient care area and directly interacts with the physician. By monitoring each patient's drug therapy and serving as an immediate source of drug information for physicians, pharmacists practicing in the clinical area have made significant contributions to rational drug usage (13).

Many pharmacists are now emphasizing a clinical component of institutional pharmacy practice.

Pharmacists have also become instrumental in rational prescribing at another level. Their participation in the process of drug utilization review is designed to control and prevent irrational prescribing and consumption (14). While many of these review programs function through the hospital's Pharmacy and Therapeutics committee, others may logically develop within the scope of the pharmacist's clinical activities. In addition, procedures involving the pharmacist in drug use review programs have been developed through the cooperation of the American Pharmaceutical Association (APhA) and the federal government (15).

The pharmacist's concern for effective drug therapy has also resulted in extensive quality control programs (16). Economics is no longer the primary criterion of product selection used for the purchase of pharmaceuticals. Rather, the pharmacist is placing emphasis on the quality of drug products by setting specific "quality assurance" procedures for drug procurement. By requiring data on each product related to its effectiveness including bioavailability, stability and dissolution rates these procedures help to insure the therapeutic integrity of patients' medication (17).

Still another sign of the pharmacist's concern for patient welfare has been his participation and interest in

areas formerly ascribed to other health professionals. The pharmacist is a primary source of patient education (18-22) and as a provider of maintenance care (23) are prime examples of activities in these areas.

Performance of such activities has not only added a new dimension to the practice of institutional pharmacy, but has also enhanced the accessibility and quality of these basic health care services.

Many changes occurring within the profession are the result of the pharmacist's expanding interests in various areas of drug action. This interest is exemplified by extensive research into the numerous aspects of drug interactions. The original concern for drug-drug interactions (24-27) has been extended to include drug-food interactions (28) and interactions between drugs and numerous laboratory (29) and diagnostic tests (30). The fact that the concept must be further extended to include such physiologic factors as age has been shown by research concerning drug use in geriatric (31-35) and pediatric (36) patients.

Economics is no longer the primary criterion of product selection used for the purchase of pharmaceuticals.

The pharmacist's application of modern technological advances has also produced many changes in the scope and quality of pharmaceutical services. Foremost among these has been the utilization of computers to improve many aspects of pharmacy service. Applications have ranged from simple accounting and record keeping functions (37) to sophisticated systems for medication ordering (38) and unit dose drug distribution (39-40).

The use of automatic drug packaging and distribution equipment is also an integral part of many modern distribution systems.

The Professional Organization

The activities of professional pharmacy organizations are also effective in producing changes. As Merton (41) has pointed out, a professional organization works foremost to press for higher standards in the area of personnel, education, practice and research and to relate the profession to allied professions, government and society. Successful performance of these functions creates benefits for its members and, through change, advances within the profession, which will lead to possibly better and/or expanded patient care services.

The American Society of Hospital Pharmacists (ASHP) provides a Personnel Placement Service (42) to its members for maximum screening of nationally available positions and practitioners. The ASHP program for the accreditation of hospital pharmacy residencies seeks to set high levels of professional competence for future practitioners by establishing the content and standardizing the quality of training programs (43). Certification of specialists in pharmacy practice, as proposed by the Task

Force created by the American Pharmaceutical Association (APhA) seems to have similar intentions (44).

Other organizational programs are concerned with education of the practitioner. Numerous forms of continuing education (seminars, cassette tape programs, etc.) are offered by local and national professional groups. In conjunction with Schools of Pharmacy, professional organizations work to correlate undergraduate education with changing practices. The recent adoption of a "Model Clinical Pharmacy Education and Training Agreement" (45) is a prime example of organizational efforts in this area. In addition, student award, grant and loan programs sponsored by professional organizations encourage academic excellence and the production of capable practitioners.

Official statements (46-50) issued by the ASHP, have established standards of practice and primary objectives for institutional pharmacy. Pursuit of these standards and objectives encourages change and promotes higher levels of professional practice. Several of these statements represent efforts of joint committees with the American Hospital Association (AHA) or the American Association of Colleges of Pharmacy (AACP). The Joint Commission on Accreditation of Hospitals (JCAH), through its standards (51), goes a step further and requires pharmaceutical services commensurate with providing an acceptable level of quality patient care.

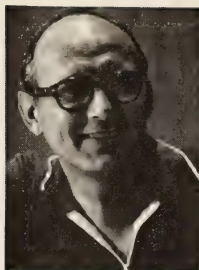
Professional organizations formally structure efforts of individual practitioners and by so doing, greatly enhance the attainment of professional goals. Tangible examples of such efforts have been seen in the publication of reference manuals to be used by practicing pharmacists in the areas of drug interactions (52), non-prescription drugs (53), pediatric dosages (54) and hospital pharmacy design (55) to mention a few. In addition, regular meetings and professional journals of pharmacy organizations provide a means by which individual practitioners can communicate new philosophies and innovations related to their practice.

The utilization of computers has improved many aspects of pharmacy service.

A Drug Product Defect Reporting Program jointly sponsored by the ASHP, the United States Pharmacopeia (USP) and the Food and Drug Administration (FDA) has provided a means for practicing pharmacists to influence pharmaceutical product quality and improve drug standards.

Other organizational activities focus on the area of professional research. The ASHP periodically provides a listing of current research studies being conducted by practitioners throughout the nation. Research awards, given annually by the ASHP are designed to recognize outstanding research by pharmacists practicing in the institution.

It would be reasonable to assume that organizational efforts in all these areas will increase in the future.



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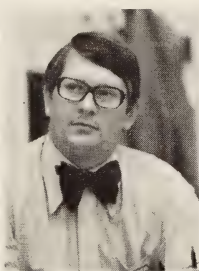
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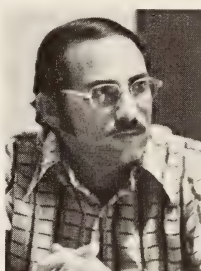
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The Consumer

There is a national thrust to have consumer advocates and groups actively participate in evaluating or planning for the Health Care System. This is witnessed in Maryland with the Citizens Health Planning Organization (56) and the Regional Planning Council (57) which are responsible for developing a unified Health Care System in the state. The involvement of the consumer brings a new dimension to the way all health professionals will need to prepare and present new programs. No longer will the need be only to convince their colleagues, but future proposals must take into consideration society in general and all socio-economic ramifications.

One example of this type of ramification, of course, is provided by the Office of Economic Opportunity (OEO) Neighborhood Health Centers (58) which were jointly developed by consumer and provider.

Professional organizations formally structure efforts of individual practitioners and by so doing, greatly enhance the attainment of professional goals.

The Government

Both federal and state laws and regulations have addressed themselves increasingly to the health care field.

On the federal level, the enactment of Medicare and Medicaid as part of the Social Security Amendments of 1965 (Public Law 89-97) has had a profound effect upon the delivery of health care. By providing payment for

physicians and hospitals, these programs initiated an effort to eliminate economic barriers and greatly increased society's accessibility to health care. The extent to which these programs have succeeded in this effort is reflected by the fact that Medicare and Medicaid now account for over half of all hospital income (59).

Certain states are complementing federal legislation with their own activities in the area of health care delivery.

In addition to increasing the demand for medical services, these programs have encouraged an overall improvement in the quality of health care being offered by establishing conditions for participation. Thus, Medicare and Medicaid have effectively emphasized the need for efficient and effective use of health facilities, manpower and funds.

The enactment of the 1972 Social Security Amendments (Public Law 92-603) has continued the trend of government influence in health care delivery. Intended to spur the development of quality of care parameters under Medicare and Medicaid, these amendments called for the establishment of Professional Standards Review Organizations (PSRO's). As defined by the statute, the PSRO will certify that health care services are necessary, that they meet professionally recognized standards of care and that they are provided in the most economical manner.

The act calls for the organization of professional review boards at the local, state and national level. A summary of the organizational structure is shown in Fig. 1.

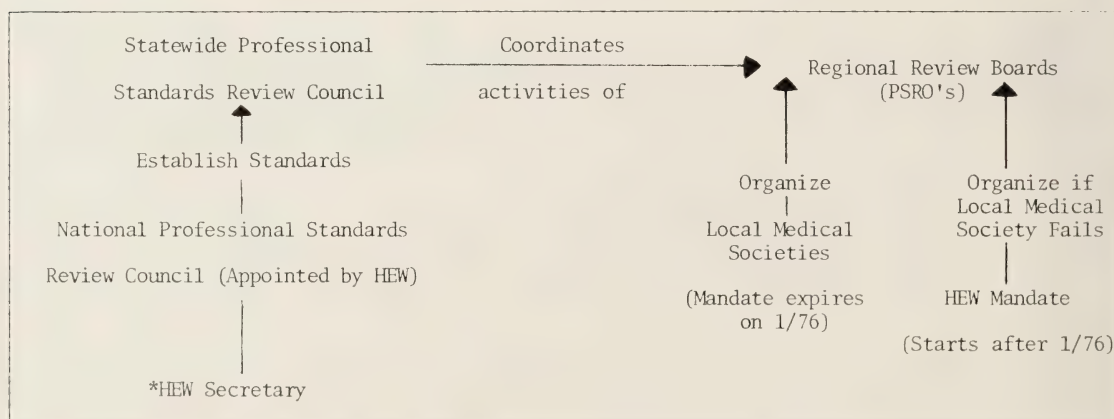


Fig. 1 Organizational Structure of PSRO's.

*Department of Health, Education and Welfare

PSRO's have been given the authority to review non-physician activities as well as those of physicians. Therefore, it can be assumed that pharmacy services will eventually come under review by these organizations. On the other hand, the statute provides for the utilization of practitioners in allied health professions for performing PSRO functions. Thus it is conceivable and certainly appropriate that the pharmacist, especially in the area of drug utilization review^a. It might well be the pharmacists' function to develop a feedback system, based on utilization review, that will lead to the use of fewer drugs in an optimum fashion.

The involvement of the consumer brings a new dimension to the way all health professionals will need to prepare and present new programs.

In addition to mandating the establishment of PSRO's, Public Law 92-603 provided the impetus for implementation of the Health Services Funding Operational Planning System Objective (OPS) (60) designed to develop and implement approaches to replace an increasing Federal share of project grant support for health service delivery projects with third party and other reimbursements.

As administered by the Office of Evaluation and Operational Planning, OPS is to be applied to grantees and contractors. Key steps in the program are:

1. Identification of present financial capabilities, achievements and problems.
2. Establishment of realistic goals for maximizing third-party and other income to assure continuation of the project.
3. Development and implementation of action plans to resolve the problem identified and achieve the reimbursement levels desired.

The Economic Stabilization Program's Cost of Living Council is another example of the federal government's influence on health care delivery. Although price regulations established by the Council have prevented price increases in the health care industry (but not costs to that industry), they may also have hindered the development of services in some institutions. For example, Phase IV Regulations (61) place limits on hospital charges in terms of costs per admission. Viewed in the perspective of the PSRO system, these regulations could well conflict with sound medical practice particularly in tertiary care or teaching hospitals. The PSRO's are intended to reduce the number of patients admitted to hospitals who might be provided adequate care in less expensive Health Care Facilities. One result of any such reduction would be an

increase in the average severity of the condition of admitted patients and an expected increase in the average cost per admission. As charged by the AHA (62), the Phase IV Regulations, in working to reduce average costs per admission, will operate in direct conflict with the objectives of the PSRO's and can only result in a reduction of the quality of care. One might add, though, that "quality of care" remains yet to be defined and evaluation measures need yet to be established.

While this development affects the entire health care community, the activities of other federal agencies relate more specifically to the pharmacist and pharmaceutical practice. Some of these seem to be in direct conflict with the increasingly sophisticated services offered by pharmacists in many instances. An FDA viewpoint regarding over-the-counter (OTC) drug labeling, implied that patients should not be referred to pharmacists for advice concerning these drugs because "pharmacists may not be sufficiently knowledgeable about drug interactions . . ." (63). Although this view was later somewhat moderated by the FDA Commissioner, its obvious effect upon the pharmacist's role as a drug consultant is very apparent.

The issuance of "lowest cost drug" regulations (64) by the Department of Health, Education and Welfare (HEW) also promises to have an appreciable and possibly undesirable effect upon pharmacy practitioners. These regulations, if enacted, will establish reimbursement guidelines for drugs dispensed in federal health care programs.

On the other hand, a report published by the federal government's General Accounting Office (GAO) on their study of health facilities construction and operating costs (65) may prove especially beneficial to practitioners planning improved distribution services. Based on the results of a life-cycle cost/benefit analysis of medication systems in 30 hospitals, the report recommends the unit dose system. Utilizing packages containing the exact dose of medication, this system provides a safer and more efficient method of drug distribution. However, when confronted with high implementation costs, many hospitals are reluctant to establish such a system. By documenting the long term economical advantages associated with unit dose systems, the GAO report should lead to their increased utilization.

It might well be the pharmacists' function to develop a feedback system, based on utilization review, that will lead to the use of fewer drugs in an optimum fashion.

Certain states are complementing federal legislation with their own activities in the area of health care delivery. The Pennsylvania Insurance Department has recently been instrumental in the preparation of several "Shopper's Guides" (66) which list and compare the costs of various health care services.

^aIn Maryland, for example, the Medical Society and the Pharmaceutical Association are cooperating in establishing a committee charged with the administration of a pharmacy review program under the Medicaid system.

In Maryland, the Health Services Cost Review Commission (HSCRC) (67) has been established to review and determine the reasonableness of health care delivery charges being made by all hospitals in the state. Similar programs are pending in other states and represent a demand for increased accountability and fiscal self sufficiency of health care institutions.

Rulings by courts in both Maryland and Florida have stated that pharmacy is evolving into almost exclusively a retail business.

To achieve these demands, it is imperative that an institution develops and implements management procedures which provide for systematic documentation of its activities, associated costs and revenues.

The Maryland Health Services Cost Review Commission promulgated a Uniform Accounting and Reporting System for Hospitals on April 1, 1973. The purpose of the system is to allow the commission to compare the costs incurred by health care institutions in providing services to the public. Thereafter the Commission is expected to establish the rates for hospitalization.

The concept of institutional pharmaceutical services, as projected by the Uniform Accounting and Recording

System, represents a grave area of concern for the profession. In addition to not acknowledging pharmacists as providers of any type of patient care service other than basic dispensing and drug control, the system disturbingly lists costs attributable to this area as including (68):

" . . . supplies, such as bottles, labels, glassware, drugs and pharmaceuticals, printed forms, alcohol, antiseptics, drug baskets, bottle caps, corks, germicides, measurers, mortars and pestles . . ."

Clearly the gap which exists between institutional pharmacy practice as viewed by the Commission and that already established by many progressive practitioners and institutions is disproportionately large.

Rulings by courts in both Maryland and Florida have stated that pharmacy is evolving into almost exclusively a retail business (69). Such opinions cast an unfavorable reflection on the professional aspects of pharmacy and completely disregard the institutional component of practice.

Thus, it can be seen that federal and state legislation is not only setting new standards so as to increase the quality and accessibility of health care, but it is also demanding increased accountability by the health care providers and justification for existing and proposed programs. Justification must not only be in the area of patient need, but also in terms of economics of existing programs.

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Excerpts From the PHARMACY AND THERAPEUTICS BULLETIN

University of Maryland Hospital

ARTHUR N. RILEY, M.S., *Editor*

Viaflex Intravenous Fluid Containers

Travenol's Viaflex^(R) plastic I.V. container system utilizes a flexible polyvinyl chloride container which offers several inherent advantages over conventional glass containers:

1. The Viaflex^(R) system is a completely closed system which does not require air-venting to function. The flexible plastic merely collapses (due to outside atmospheric pressure) as the solution is administered. This feature is claimed to reduce any possibility of air-borne contamination of the sterile I.V. solution.
2. The Viaflex^(R) containers are lighter and virtually unbreakable. This reduces the danger of patients or hospital personnel being seriously injured by a falling container of solution. In addition, plastic containers can be stored, handled and disposed of more conveniently by the hospital.
3. The design of the Viaflex^(R) container features a separate entry port for administration set insertion. This port greatly reduces the possibility of human "touch" contamination.

According to the manufacturer, all the incompatibility data available for glass I.V. containers also applies to Viaflex^(R) containers. The only exception is M.V.I.^(R) which contains the oil-soluble vitamins A, D and E. Initial reports indicate that the adsorption rate of Vitamin A in the polyvinyl chloride containers is significant over a period of time. While adsorption rates for vitamins D and E are lower and subsequent studies concerning vitamin A are controversial, until additional data is available only "stat" infusions (those to be administered immediately following preparation) containing M.V.I.^(R) may be prepared in Viaflex^(R) containers. The I.V. admixture service will continue to dispense all M.V.I.^(R)-containing admixtures in glass containers. Partial filled mini-containers used for "piggy-back" antibiotic administration are not currently available in the plastic Viaflex^(R) system. Therefore, admixtures will continue to be prepared in glass I.V. containers.

On a practical level, the Viaflex^(R) system possesses some distinct differences from glass systems. These differences require special techniques in handling. The fol-

lowing are some areas which demand the most consideration with respect to handling techniques:

1. Insertion of the Administration Set

Due to the presence of approximately 20 ml. of air which is introduced into the Viaflex^(R) containers during the manufacturing process, the administration set must be inserted while the bag is in a hanging position. This prevents loss of the air inside the container which allows for easy determination of the fluid volume.

2. Addition of Medication

- a). As opposed to insertion of the administration set, medication additives should be made with the Viaflex^(R) container in an INVERTED position. After addition of the drug the container should be agitated sufficiently to insure its uniform distribution. In the case of an infusion already in progress, the administration set must be clamped and the container removed from the hanging position before any medication is added. Failure to observe this procedure will result in a potentially hazardous situation for the patient. If added in a hanging position, the drug additive quickly migrates to the administration line and will be infused in a concentrated dose.
- b). The absence of a vacuum in the plastic bags precludes the use of certain additive containers and devices (e.g., KCI Incerts^(R) transfer needles, etc.). All additives must be drawn up and injected via the medication injection port using a syringe and needle. In addition, a needle must now be used with the metaraminol Dil-Ject^(R) units presently available in the emergency drug boxes and ICU crash carts. These units will be supplied with 20 gauge, 1½" disposable needles for use in adding metaraminol to the Viaflex^(R) containers.

Problems encountered with the Viaflex^(R) containers may be avoided through a knowledge of the unique characteristics of the system and inservice training for all personnel involved in admixture preparation and/or admin-

istration. Physicians having specific questions or problems concerning the Vialflex system are encouraged to contact the Pharmacy I.V. Admixture Service.

—Pearl Walsh, B.S.

Neomycin Ototoxicity

Neomycin ototoxicity is permanent, irreversible, and its incidence increases with decreased renal function. This ototoxicity is not limited to the oral use of this drug. Hearing loss is documented for oral, parenteral injection, topical wound irrigation, as well as, from inhalation therapy for bronchiectasis.

Ototoxicity from neomycin irrigation has been reported with solutions of 10 Gm. per 1000 ml. given as often as six times daily (daily dosage 20-60 Gm.). In one case an adult developed deafness following rectal and colonic irrigations with neomycin solutions (over 960 Gm. over a two month period). More recently a *New England Journal of Medicine* article reported high-tone neurosensory hearing loss in a child resulting from sinus tract irrigations of the knee-joint with neomycin solution. In this case the child was receiving 50 ml. of a 10% neomycin irrigating solution every 3 hours by catheter drip into the left knee sinus. The interval was changed to every 6 hours 12 days later and discontinued 17 days from the beginning of therapy. In still another study a 24-year old man had 89% hearing loss in one ear and 100% hearing loss in the other ear following wound irrigation every four hours with 80 ml. of a solution containing 0.5% neomycin and 0.1% polymyxin for two weeks. This 2.4 Gm. of neomycin daily was reduced to 1.2 Gm. daily when the patient developed abnormal renal function tests. These authors concluded, therefore, if local treatment with neomycin is adopted it should be limited to levels considered safe for injection (not greater than 1 Gm. daily and that treatment should not exceed seven days).

There does, however, seem to be a variation in patient susceptibility to this drug toxicity. Despite this patient variation it might be wise to follow the above guidelines, perform periodic audiometric tests on patients on prolonged neomycin therapy, and if possible to substitute other less toxic topical antibiotics whenever possible.

1. Greenberg, L., Audiototoxicity and Nephrotoxicity due to Orally Administered Neomycin, *JAMA*, 194:237-238 (Nov. 15) 1965.
2. Nilges, T., Iatrogenic Ototoxic Hearing Loss, *Ann. of Surgery*, 173:281-289 (Feb.) 1971.
3. Editorial, *British Med. Journal*, 181 (Oct. 25) 1969.
4. Campanelli, P., Hearing Loss in a Child Following Neomycin Irrigation, *Med. Ann. D. C.*, 35:541:543, 1966.
5. Kelly, D., Deafness after Topical Neomycin Wound Irrigation, *NEJM*, 280:1338-39 (June 12) 1969.

—Carolyn Love, B.S.

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Dunning Brothers Retire

For the first time since 1896, a Dunning will no longer bear active responsibility for the operation of Hynson, Westcott and Dunning, Inc., Baltimore pharmaceutical manufacturers of Mercurochrome and a line of diagnostic products. The three Dunning brothers, Dr. J. H. Fitzgerald Dunning, President; Dr. H. A. Brown Dunning, Vice President; and Dr. Charles A. Dunning, Secretary-Treasurer, have announced retirement effective with the end of the 1973-1974 fiscal year. Mr. George F. Whatam, Sales and Promotion Manager, will succeed Dr. J. H. Fitzgerald Dunning as President.

The firm started out in 1889 as a retail pharmacy operated by Dr. James W. Westcott and Dr. Henry P. Hynson. In 1896, they were joined by Dr. Henry A. B. Dunning. The following year, they moved to Charles and Franklin Streets and became pharmaceutical manufacturers. In 1972, Hynson, Westcott and Dunning entered into an agreement with the Becton, Dickinson Company for eventual transfer of shares into that firm.

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Prince Georges-Montgomery County Pharmaceutical Association



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Officers of the Prince Georges-Montgomery County Pharmaceutical Association, 1974-1975, front row (l to r): Simon Zvares, President; Paul Reznek, Executive Secretary; back row: Dominic J. Vicino, Treasurer; Edward S. Sandel, First Vice President; Edward D. Nussbaum, Secretary; and Leonard J. DeMino, Third Vice President. Not shown in photo are Henry Theis, Jr., Second Vice President, and Morton H. Katz, Fourth Vice President.



Photos by Paramount Photo Service

Herman Bloom, Installation Officer for the 20th Annual Installation Dinner of the Prince Georges-Montgomery County Pharmaceutical Association, College Park, Maryland, June 9, 1974.



—Photo by Paramount Photo Service

S. Ben Friedman, left, immediate Past President, receives Certificate of Service award from Paul Reznek, Executive Secretary.

Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of June:

New Pharmacies

Read's, Inc., Arthur K. Solomon, President; Read Street and Linden Avenue, Baltimore, Maryland 21201.

Montebello Center-Pharmacy, Solomon Gladstein, Director; 2201 Argonne Drive, Baltimore, Maryland 21218.

Kent and Queen Anne's Hospital, Inc., R. W. Morin, Administrator; Pharmacy, Chestertown, Maryland 21620.

Baltimore County General Hospital Pharmacy, Melvyn Goldman, President; 5401 Old Court Road, Baltimore, Maryland 21133.

Changes of Ownership, Address, Etc.

Duren and Smith, C. L. Duren and J. G. Smith (Change of ownership and pharmacy name); 8901 George Palmer Highway, Lanham, Maryland 20801.

No Longer Operating as Pharmacies

Circle Drug, Jerome Settleman; 1504 Reisterstown Road, Baltimore, Maryland 21208.

Read's, Inc., Arthur K. Solomon, President; 1143 West Baltimore Street, Baltimore, Maryland 21223.

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Washington Spotlight For Pharmacists

By

Mark Neil Levine — APhA Legal Division

DEA PRESCRIPTION SURVEY

Regarding the problems of fraudulent prescription orders, the Drug Enforcement Administration recently conducted "Project Script"—a survey, the results of which purport to demonstrate the vulnerability of pharmacies to such devices.

APhA has reacted strongly, pointing out that the study suffers from many research deficiencies and should not be used by DEA to formulate policy. For example, the survey states that community pharmacies were "pre-selected by field agents in the locality designated according to personal knowledge." Apparently, random sampling was not used and, therefore, bias might easily have been introduced into the study. Further, although the study does not specify the number of community pharmacies involved in the study, and although one may infer from the body of the report that 128 pharmacies were included, it has been determined that, in fact, only 16 pharmacies were surveyed.

Beyond this invalid survey APhA has serious questions about the effectiveness of the considered regulations in curbing the problem of fraudulent prescription orders. For instance, false identification which would meet the requirements of the regulations might be obtained perhaps more easily than a forged prescription order. In a letter to the Drug Enforcement Administration, Dr. William S. Apple, Executive Director of APhA, noted:

Although APhA is as eager to solve the problem of diversion as is the Drug Enforcement Administration, we feel that any proposed remedial action must reflect an equitable balance between the extensiveness of the problem being attacked and the time, effort and expense required to implement corrective measures. In this case, DEA has failed to demonstrate that the problem of diversion through fraudulent prescription orders is, in fact, a significant one, particularly when weighed against the total numbers of controlled substances dispensed entirely legitimately through the nation's pharmacies. We feel that DEA is entirely unjustified in promulgating regulations that will be an unnecessary burden on the pharmacist, the patient, and the prescriber, based primarily on the results of Project Script, which in no way quantified the prevalence of prescription fraud. At such time that such definitive proof of a wide spread problem is brought forth, APhA would be the first to cooperate in any reasonable program necessary to combat the problem.

There exists a pointed disparity between the enforcement philosophy of DEA and the views of the National Commission on Marihuana and Drug Abuse.

Donald E. Miller, Chief Counsel of the Drug Enforcement Administration, in a meeting with representatives of several pharmacy organizations on the subject of Project Script and the regulations under consideration has been quoted as stating, "You must understand that I am a policeman's lawyer and I am regulation-minded," and further, that it would take "some pretty persuasive arguments to change my mind (about the considered regulations)." The National Commission on Marihuana and Drug Abuse has noted:

When increases in prohibited drug use continue to escalate, policy makers respond, not by reassessing the problem from different perspectives, but rather by pressing for ever-more costly mechanisms of control; costly both in terms of resources and important social values. Drug policy can be thus summed up: increased use of disapproved drugs precipitates more spending, more programs, more arrests and more penalties, all with little positive effect in reducing use of these drugs.

The American Pharmaceutical Association has pointed out repeatedly that the vast majority of pharmacists are presently doing a creditable job in monitoring and preventing the diversion of legitimate drugs. As alternatives to the considered regulations, APhA has proposed that the DEA formulate tighter controls on the printing, distribution and use of prescription order blanks and that DEA, in cooperation with pharmacy organizations and the prescribing professions, undertake an educational campaign to sensitize practitioners to the problem of diversion and inform them of methods which may be utilized in their own practices to detect and prevent fraudulent prescription orders through the normal process of self-regulation and ethical practice.

Prolonged Use of Sleeping Pills Found Ineffective

Use sleeping pills long enough and you may have even more difficulty getting to sleep than the average insomniac who does not take anything. That is the conclusion of a report in a recent issue of the *Journal of the American Medical Association*.

A medical team from the Sleep Research and Treatment Facility of Pennsylvania State University's Milton S. Hershey Medical Center at Hershey, Pennsylvania, tested ten patients, each of whom had been using hypnotic drugs for periods ranging from months to years. The patients were monitored in a sleep laboratory while

continuing to take their pills, and then compared to insomniacs who were not receiving medication.

The report found that all of these patients had greater difficulty in falling asleep or staying asleep than the insomniac controls who were not using medication.

The research team recommended that sleeping pills be re-evaluated in longer term studies, and that "if a drug is shown to lose its effectiveness within two weeks or a month of consecutive use, then this should be clearly indicated in the package insert and advertising for the drug."

The new proposed Food and Drug Administration guidelines contain a requirement that all hypnotic drugs be evaluated in studies in which the drug is administered for at least two weeks and in some cases for one month or longer.

**Assistant HEW Secretary
Defends Home Remedies**

If Assistant Health, Education and Welfare Secretary Charles C. Edwards has his way, there will be no mass removal of OTCs from pharmacies.

Edwards, an advocate of the benefits of home remedies, feels "to tell the American people that a home remedy that they have confidently used for many years should be removed from the market because there is no hard scientific evidence of its absolute efficacy would indict not only the product, but the regulatory system itself."

In the last two years the government, acting for the most part under extensive consumer pressure, has launched a massive review of OTC drugs. Already it has been suggested that many products will have to be reformulated and relabeled if they are to continue to be marketed.

Edwards feels that "the system, while far from perfect, has been remarkably effective. In the OTC field, unsafe drugs are kept off the market and the question of efficacy is being addressed in a way that is appropriate for drugs that are not sold under prescription."

Edwards warned that "we must be on guard against actions that inadvertently do more to cause public alarm than to assure public protection."

Pharmacies Becoming Prime Target For Addicts

Pharmacists and pharmacy employees are fast becoming a favorite target for robbers and drug addicts. A Federal Drug Enforcement Agency report says "the drug store of today is all too frequently a combat zone within which robberies, burglaries, assaults, and even killings are becoming commonplace."

A look at the latest DEA statistics reveals the number of reported drug thefts rose more than 25 percent last year. However, even of greater significance is the fact that the proportion of drugstore robberies is rising at a faster rate. During the first half of 1972 less than half of the drug thefts were made against pharmacies. However, by the end of 1972 the proportion skyrocketed to 65 percent. Preliminary reports indicate that pharmacies

were the victims of more than 80 percent of all drug thefts last year.

Meanwhile Senator Birch Bayh's Juvenile Delinquency Subcommittee is studying the problem on the feasibility of federal protection for pharmacies.

DEA Head Overturns Judge's Decision

Drug Enforcement Administration Chief John Bartels, Jr., has overturned an administrative law judge's ruling that a pharmacy could retain its BNDD registration despite the fact that an official of the corporation running it was convicted of a felony involving controlled substances.

In overturning the judge's decision in a case on the west coast, Bartels ruled that under the judge's interpretation of the facts, "felony convictions of corporate officers or agents would not constitute grounds for revocation of a controlled substance registration certificate so long as a single officer remained apart from misconduct. Even if a corporation was convicted, there would be nothing to prevent the same person from assuming another corporate identity in order to obtain a registration . . ."

Quote . . . Unquote

"I'm surprised they let people sell beds in this state." That was New York Assemblywoman Constance Cook's charge after the Assembly defeated her bill to allow open display of contraceptive products in pharmacies. Opponents of Ms. Cook's bill claimed passage would result and encourage promiscuity.

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Obituaries . . .

ARTHUR, A. M. ("Arch") DEWING

Arthur, A. M. ("Arch") Dewing, 85, a native of Centerville, Maryland, died at Easton Memorial Hospital on May 16, 1974, after a brief illness. He had served as President of Maryland Pharmaceutical Association for 1938-39. Mr. Dewing began his career in pharmacy as a small boy hired to work for a local pharmacy during the Christmas holidays. He quit school to work full time in the pharmacy and then worked as a salesman including a period with a pharmaceutical firm in Philadelphia.

He returned to Centerville and after working at various jobs opened a pharmacy in 1915 with a registered pharmacist as a partner. In his free time he studied pharmacy, passed board examinations and became associated with his future father-in-law, Elmer Moyer, a pharmacist. Mr. Dewing operated the pharmacy until 1947 when he sold it to the present owner, William J. Connor.

Mr. Dewing was a founder and charter member of the Eastern Shore Pharmaceutical Society. In 1970 he was tendered a testimonial at a dinner meeting of the Eastern Shore group for his 55 years of service in pharmacy. Elmer Sterling, who in the same year celebrated 50 years

of service in Church Hill, presented him with a Distinguished Citizen's Certificate issued by Governor Marvin Mandel. At the dinner Nathan I. Gruz, Executive Director, Maryland Pharmaceutical Association, spoke of his contribution as a leader of pharmacy in Maryland. Mr. Gruz' remarks contained excerpts from the message Mr. Dewing had made on his installation as President of Maryland Pharmaceutical Association.

Mr. Dewing traveled extensively and upon his return filled in for pharmacists when he wasn't pursuing his hobby—writing music. He wrote a number of special occasions and organization songs as well as sacred music. One of his marches, "Pharmacy", was played at some of the conventions of the Maryland Pharmaceutical Association.

Mr. Dewing is survived by his wife, a daughter, Mrs. R. Sherwood Johnson of Lansdale, Pennsylvania, six grandchildren and four great-grandchildren.

Kenneth William Meagher

Kenneth William Meagher, a pharmacist at St. Joseph Hospital for the past year, died on May 16 after a short illness. He was 25. Mr. Meagher graduated from the University of Maryland School of Pharmacy in 1973. At the School of Pharmacy, he was awarded the L. S. Williams Award for Practical Pharmacy.

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the maryland pharmacist

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PAUL FREIMAN
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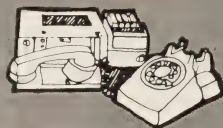
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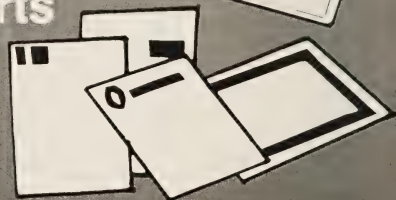
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NUMBER 8

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STATISTICS MUST BE VIEWED WITH CAUTION

Many articles appear in newspapers, magazines and journals regarding expenditures for health care including prescription drugs. Frequently the author will use those statistics which will bear out his point and depending on who the author has to please (usually the consumer), this will determine the type of information the author uses in his article.

As an example, if you were trying to support your viewpoint that drugs are overpriced you might use the following statistics:

Sales for drug companies totaled 15.2 billion dollars in 1973—an increase of 51 per cent in five years.

Profits after taxes last year amounted to 1.5 billion dollars, up 59 per cent in five years. The profit margin of 10.2 per cent on sales is more than double the 4.7 per cent margin of all manufacturing companies.

On the other hand, if you were trying to make the point that drugs are a bargain at today's prices you would use statistics such as:

Today, drugs take 11 cents out of each consumer dollar spent on health care, down from 15 cents a decade ago.

New drugs have helped cut the average tuberculosis patient's hospital stay from 461 days in 1950 to about 78 days in 1973.

Government statistics show that the price of prescription drugs has declined since 1960 by 12 per cent, while all living costs have risen 62 per cent.

From 1773, when the first American public mental health hospital opened, until 1956, the number of hospitalized mental patients increased each year. With the introduction of tranquilizers in 1955, and later the anti-depressants, the number of patients confined to state and county hospitals decreased by 51 per cent.

Vaccines produced by drug companies have virtually eliminated the threat of polio and drastically reduced the death rates for childhood diseases.

Statistics can be misleading if they are incomplete. For example, in citing that the drug industry's profit margin of 10.2 per cent on sales is more than double the 4.7 per cent margin of all manufacturing companies, it is important to also note that drug companies spend more than 5 per cent of total revenue on research and development, compared with 1.5 per cent for all manufacturers.

Similarly, although it can be shown that the average price of a prescription has been steadily increasing at a small annual increment over the past several years, recent studies have also shown that the average number of doses

prescribed by physicians per prescription has increased steadily over the past several years thereby actually accounting for a decrease in the net cost of prescription drugs to the public.

Statistics can be useful or harmful depending on who is using them and how they are being used.

—Normand A. Pelissier

PHARMACY CALENDAR

October 4 (Friday)—New Aspects of Institutional Pharmacy Practice, University of Maryland School of Pharmacy-Maryland Society of Hospital Pharmacists-co-sponsors, Colony 7 Motor Inn, Baltimore-Washington Parkway at Route 32.

October 10 (Thursday)—Maryland Society of Hospital Pharmacists meeting at Arundel General Hospital, Annapolis, 7:30 p.m.

October 15 (Tuesday)—Cardiovascular Pharmacology—First Session, Allied Health Professions Building, 32 South Greene St., Baltimore.

October 17 (Thursday)—Maryland Pharmaceutical Association Fall Regional and House of Delegates Meeting Colony 7 Motor Inn, Baltimore-Washington Parkway at Route 32.

October 31-November 3—American College of Apothecaries Annual Convention, Alameda Plaza, Kansas City, Missouri.

November 3 (Sunday)—Comprehensive Review of New Drug Products, Holiday Inn, Route 50, Easton, Maryland.

December 8-12—American Society of Hospital Pharmacists Midyear Clinical Meeting, Bal Harbour, Florida.

1975

January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

January 16-24—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Group II, Princess Kaiulani Hotel, Honolulu, Hawaii.

February 9 (Sunday)—Annual Installation Banquet, Baltimore Metropolitan Pharmaceutical Association, Blue Crest North.

April 19-24—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.

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Maryland Board of Pharmacy News

Registrations Granted

After completing examinations conducted by the Maryland Board of Pharmacy on June 19, 20 and 21, 1974, the following have been granted registration:

Stanton G. Ades
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David L. Bennion
Leslie A. Benson
Sherry N. Berlin
Wayne A. Borkoski
Julius D. Bullard, III
Benjamin E. Carter
Louisa L. Chen
Harry N. Cook
Paul J. Crist
Dianne L. M. Crosby
David C. Curry
W. Thomas Dolan
Thomas E. Donohue
Chrisoula J. Economides
Beverly Edwards
Francis S. Eng
Paul L. Fader
Elwood L. Fletcher, Jr.
Regina M. Fletcher
Robert R. Foreman
Russel A. Gobeille
Patricia L. Grendahl
Harold D. Harrison
Walter J. Hryszko
Janet M. Jones
Barry L. Keeler
Katherine A. Kidd
Virginia Kreul
Nickola L. Kuhn
Florence F. Kwong
Raymond Lee
Pamela K. Lindsay
Eugene R. Loudon

Michael S. Luger
Barry L. Luria
Robert J. Martin
Dennis L. Myers
Jay R. Newirth
Claude W. Nogay
Joseph E. Parker
Leonard N. Patras
Philip M. Perry
Thomas S. Petr
Bonnie L. Pitt
Joseph L. Pollard
Marta M. Procinsky
Louise F. Quan
Peter Ritterstein
Carroll G. Rusk, Jr.
Michael Schneyer
Thomas S. Shelor
Ralph A. Small, Jr.
Michele Y. Splinter
Stanley J. Stefanoski
Vigal A. Wahab
Adrienne K. Watson
Hal J. Weinstock
Lawrence K. Westfall
Victoria D. White
Jerry L. Wilhelm
Harry J. Williams
Charles M. Wilson
Linda F. Wohl
Joseph M. Wright
Larry M. Young
William V. Zappa
Dorothy H. Zepp
Robert P. Zepp

Having previously passed the theoretical examination, and by virtue of having passed the practical examination, at this time, registration will be granted to:

Allen Nga-Lun Chow
Douglas K. Ecklund

Gregory Gawlick
Raymond E. Hollis

The following passed the theoretical examination, but registration is withheld until they have met the legal requirements for practical pharmacy experience and have passed an examination in practical pharmacy:

Earl E. Abrahamson
Bruce L. Bergman
Alan T. Bickford
James J. Boyle
Timothy J. Bretz
Robert T. Campbell
Paul J. Chorpennin, Jr.
Farouk M. Ferouz
James A. Giardina
Mary Anne P. Giesey
Bruce C. Goldberg
Robert J. Grossman

James W. Harnish
William C. Hawk
John C. Lowe
Barbara J. Lupinacci
Frank O. Marinelli
Vithal C. Patel
Stephen Picarde
Surinder K. Singal
Paul S. Tashjian
Kenneth R. Ward
John R. Yurick

Pharmacy Changes

The following are the pharmacy changes for the month of July:

New Pharmacies

Drug Fair No. 164, Milton L. Elsberg, President; 168 Carroll Island Road, Baltimore, Maryland 21220.

Union Bridge Pharmacy, Donald B. Elliott, President; 9 North Main Street, Union Bridge, Maryland 21791.

E. W. McCready Memorial - Pharmacy, Lloyd Stevens, OD, President; Hall Highway, Crisfield, Maryland 21817.

Deist Pharmacy, Inc., Freeman P. Deist, President; 952 Seton Drive, Cumberland, Maryland 21502.

North Charles General Hospital-Pharmacy, James M. Swartz, President; 2724 North Charles Street, Baltimore, Maryland 21218.

Changes of Ownership, Address, Etc.

Williams Pharmacy, Bernard W. Ralph, (Change of ownership); 1300 North Caroline Street, Baltimore, Maryland 21213.

No Longer Operating as Pharmacies

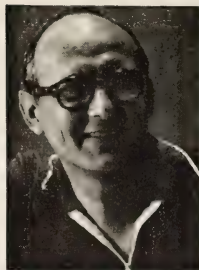
Layden's Pharmacy, Steven Tolstoi, President; 2140 West Baltimore Street, Baltimore, Maryland 21223.

Connecticut Pharmaceutical Association Seeks Executive Secretary

Francis B. Cole, Executive Secretary of the Connecticut Pharmaceutical Association since 1963, has announced his resignation to be effective June 30, 1975.

Connecticut Pharmaceutical Association President, Daniel C. Leone has appointed Past President Daniel A. Camilliere as Chairman of a Search Subcommittee for a new Executive Secretary for the Association. All applicants interested in applying for the position may request a copy of the job specifications and official application form by submitting a request to Daniel A. Camilliere, Chairman, Advisory Executive Committee, Connecticut Pharmaceutical Association, 148 Ox Yoke Drive, Wethersfield, Connecticut 06109 — Phone (203) 529-8757.

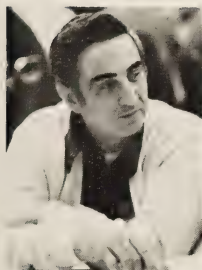
Although candidates with a pharmacy background are preferred, those with a strong record in administration or in health-related areas will be considered. All applications will be held in confidence and should be submitted no later than October 31, 1974.



RAY HECKMAN



DENNIS CRAWFORD



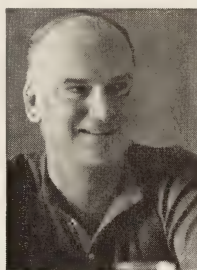
DEAN SULLIVAN



BILL HYSSONG



MIKE GERSHEN



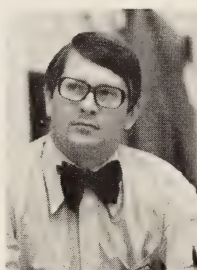
JOHN O'MALLEY



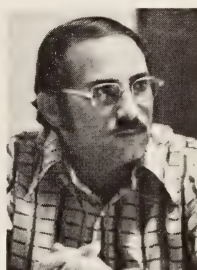
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Institutional Pharmacy Section

Peter P. Lamy, Ph.D., *Editor*

A Review of Insulin And Insulin Preparations

by

PETER P. LAMY, PH.D.

Professor

Director, Institutional Pharmacy Programs

University of Maryland

School of Pharmacy/University Hospital

Baltimore, Maryland

Insulin

Insulin was discovered in 1921. It is synthesized in the beta cells in the pancreas and consists of two long polypeptide chains with specific amino acid sequences. The A chain has 21 amino acids, and it is acidic, while the B chain has 30 amino acids and it is basic. The two chains, A and B, are linked by two disulfide bridges, with an additional disulfide bridge within the A chain. The chains form a helix, which influences the hormone's physical and chemical properties.

It has been suggested that the six amino acids within the disulfide bridge of the A chain provide the sites of binding to the tissue. There seems to be available now convincing evidence that there is a precursor to insulin, also a secretory product of the beta cells, termed proinsulin. Proinsulin is a single-chain polypeptide ranging in length from 81 to 86 residues. Its molecular weight is approximately 1.5 times that of insulin and it is cleaved by trypsin. Thus, the total plasma insulin, secreted in response to food intake by the normal individual can be divided into at least two distinct components, i.e., the insulin component and the proinsulin component. Proinsulin and intermediate forms constitute only up to about five per cent of total pancreatic insulin.

Mode of Action of Insulin

Glucose, on ingestion, produces a biphasic response in the normal person. First, there is an early, rapid release of insulin, which is followed by a long, sustained release. The first, or early, phase will determine pretty much the rate at which the organism will utilize glucose. Incidentally, it should be noted that the dynamics of insulin secretion differ, depending on the route of intake of glucose.

Insulin can activate various metabolic processes by interaction with cell surface structures. It has been claimed that these cell molecules are uniquely capable of recognizing and interacting with insulin and that they do so with a high degree of selectivity and affinity.

The receptor cell has been postulated to have two functions: a) to recognize insulin specifically and b) to convey to other molecules that insulin has been recognized.

The insulin molecule, probably in its monomeric form, attaches itself to the specific receptor cell at the plasma membrane. This event causes specific changes, which in turn, activate the transport carriers for certain sugars, amino acids and electrolytes. At the same time, a "messenger" molecule is released which then acts at some point shared by the processes of anabolism, i.e., production of glycogen, protein, fat and nucleic acid from the smaller precursors. Most of the available evidence seems to indicate that insulin stimulates glucose metabolism by accelerating the carrier-mediated transport of glucose into the cell. This carrier, incidentally, has not yet been chemically isolated. Additionally, none of the necessary steps that would have to take place between the initial binding of the insulin molecule and the increased activity of the carrier system have been identified or isolated.

The overall action of insulin is thought to enhance the incorporation of amino acids into muscle protein and the transport of some, but not all, amino acids into muscle cell, while it suppresses the rate of protein catabolism.

The postulated action of insulin, which itself is an anabolic hormone, can be summarized to include: a) transport of glucose, ions and amino acids; b) glycogen formation; c) glucose conversion to triglycerides; d) nucleic acid synthesis and e) protein synthesis.

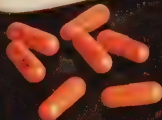
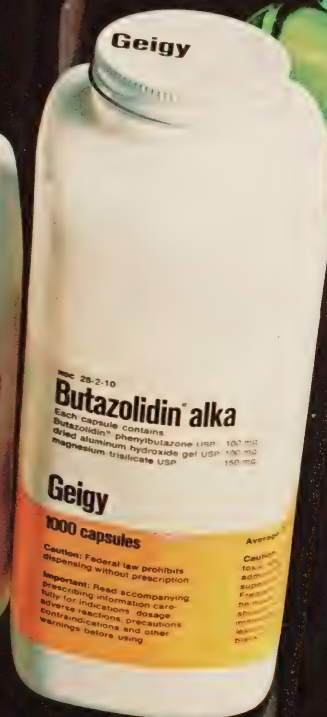
The Role of Insulin in the Treatment of Diabetes Mellitus

Insulin first became commercially available in 1922. Since then, the life expectancy of the diabetic patient has steadily increased, particularly in those patients with an onset of the disease before the age of 20. In 1914, the average newly diagnosed diabetic faced a life-span of 4.9 years, which, in 1970, had been increased to 18.1 years. It should be noted that this represents an average only. For those in whom diabetes mellitus has been diagnosed before the age of 20, the life span has been prolonged by approximately 10 years, while for the elderly, the life span has remained steady at 10 years and no further increase has been noted in the last two decades.

Treatment of Diabetes Mellitus

Dietary management should be used to the greatest extent possible. It not only will prevent iatrogenic hypoglycemia, but may also reduce the frequency and severity of spontaneous hypoglycemia. The F.D.A. has stated that "diet and reduction of excess weight are the foundation

Legend drugs in their own time



of initial therapy of diabetes mellitus, and if the disease is adequately controlled by these measures, no hypoglycemic therapy is indicated." Insulin therapy is required, however, for ketosis-prone and labile diabetics whose condition is not controlled by diet alone. It may also be needed by patients with mild diabetes mellitus in periods of stress, such as surgery, anxiety, infection and other stress conditions.

Commercially Available Insulins

All of the available insulin is marketed in 10 ml. vials. All insulin products marketed in the United States are standardized by biological tests. The present standard contains 24 units per mg. This means that one milliliter of U-40 insulin contains slightly less than 2 mg. of pure insulin. Each batch of insulin is assayed not only by the manufacturer but, in addition, by the F.D.A. When both assays agree, a batch is certified and released for marketing.

Most insulins are derived from pork or beef. Ten thousand pounds of raw beef and pork pancreas glands will supply enough pure insulin to manufacture approximately eleven thousand 10 ml. vials of U-80 insulin. It takes about two cows or five pigs to supply the active ingredient for one bottle of U-80 insulin.

It is important to know the source of insulin. Differences between beef and pork insulin occur at two positions, while differences between pork and human insulin occur only at one position. In other words, porcine insulin resembles human insulin more closely and thus, it is probably less antigenic.

Serum of diabetic subjects bind both pork and/or beef insulin, but it appears that the affinity of antibodies is usually greater for beef than it is for pork insulin. Patients who react to beef insulin will frequently not react to pork insulin. On the other hand, the literature reports instances where patients could not be controlled by beef insulin, but when switched to pork insulin, control was rapidly established.

All of the products marketed by Eli Lilly are mixtures of beef and pork, the ratio usually consisting of three-quarter beef to one-quarter pork. It should be noted that Insulin Zinc Suspension Prompt USP and Insulin Zinc Suspension Extended USP are based on beef only. Pure beef products are available from Lilly on special request, and they are called "Special Iletin," while those from pork only are called "Iletin, Pork." E. R. Squibb is now changing all except the insulin zinc suspensions (regular, prompt and extended) to mixed beef-pork type to have their products coincide with those of Lilly. Insulin marketed by Burroughs Wellcome is prepared from beef pancreas only.

Concentrations of Commercially Available Insulins

All currently available insulins are marketed as either U-40 (color coded red) or U-80 (color coded green). In addition, Lilly has available a U-500 strength of regular insulin.

In June, 1972, the Board of Directors of the American Diabetes Association adopted a statement, subsequently published in the Journal of the American Diabetes Association, that "within several months, U-100 insulin will be made available in the United States and Canada." The "final goal," the announcement continues, "is the general use of U-100 insulin and the discontinuation of U-40 and U-80 insulins and the corresponding syringes at the earliest possible date."*

The ADA cites as chief reason for introduction of the new strength the elimination of a dangerous situation, i.e., the availability of insulin in several strengths with different syringes, which has been shown to lead to misuse and incorrect use of the insulins by patients.

New Types of Insulins

Two new types of insulins have been marketed by Lilly. The first of these was the "Single Component" insulin, which contains 28-30 units/mg. and consists of 99% pure insulin, as opposed to USP insulin, which has a potency of 23-25 units/mg. and consists of 92% insulin-like substances, 6% pro-insulin like substances, 1% insulin aggregates and 1% non-insulin substances. Single Component insulin is the purest insulin currently available, but it is laborious and expensive to produce. It will not be available for general use. However, "Single Peak" insulin will be available. It has a potency of 26-27 units/mg., and consists of 99% insulin and pro-insulin like substances and 1% non-insulin materials. Single Peak insulin, as such, is not identified on the label, but Lilly has announced that all Iletin preparations with an expiration date of November 1, 1974 or later will be single peak insulin.

Stability of Insulins

Several of the commercially available insulins are milky suspensions, with their activity residing in the suspended particles. These preparations must be ROTATED gently before use in order to form a uniform suspension. They should not be agitated vigorously, as the activity of insulin (a protein) may be destroyed.

Except for the bottle in immediate use, which can be kept at room temperature, all insulins should be stored in the refrigerator. Caution should be exercised not to freeze the preparation, as it may lose some potency on freezing and subsequent thawing. The U.S. Public Health Service has published studies that show that almost all insulins, if kept in a temperature range between freezing and 95°F, can be kept unrefrigerated for seven days.

Individual Preparations — An Overview

No single type or combination of types of insulin fits all diabetics. Nevertheless, in most instances, acceptable blood sugar levels, currently still the "goal" of maintenance therapy, can be obtained for most diabetic patients with a once-daily or twice-daily schedule of administration.

* Since the writing of this article, U-100 insulin has become commercially available.

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Insulins may be divided into three classes, based on their rapidity of action:

- (1) Short Acting Insulins (best administered $\frac{1}{2}$ to 2 hours before a meal)
 - a. Insulin Injection, USP
[Regular Insulin, Crystalline Zinc Insulin (CZI), Acid Regular Insulin (ARI)]
 - b. Insulin Zinc Suspension, Prompt, USP
[Semi-Lente: Note—the terms Lente, Semi-Lente and Ultra are registered trademarks of the Novo Industri A/S, Copenhagen and, thus, should not be used as generic terms]
 - c. Neutral Regular Insulin, USAN 10 [NRI]

In general, these insulins are used as adjuncts to longer-acting insulins, which have a delayed onset of action and may cause hyperglycemia between breakfast and lunch.

- (2) Intermediate Acting Insulins (best administered 1-1 $\frac{1}{2}$ hours before breakfast)
 - a. Globin Zinc Insulin Injection USP
 - b. Isophane Insulin Suspension, USP [NPH]
 - c. Insulin Zinc Suspension, USP [Lente]

These are probably the most frequently used insulins, as they last approximately 24 hours but still have a fast-acting component to correct postprandial hyperglycemia. While Globin Zinc Insulin is not frequently used, many patients are controlled with a single daily administration of either NPH or Insulin Zinc Suspension.

- (3) Long Acting Insulins (best administered 1 hour before breakfast):
 - a. Protamine Zinc Insulin Suspension, USP [PZI]
 - b. Insulin Zinc Suspension, Extended, USP [Ultra-Lente]

In general, these are used mainly to provide the basis for tailor-made mixtures of insulin for a particular patient. However, in a few cases, such as stable diabetics who need only small doses of insulin, they are used individually.

Individual Insulin Preparations

Insulin Injection, USP

This is a colorless solution of pH 3 and an IEP of 5.3 with a rapid onset (15-20 minutes), as it is highly soluble at physiologic pH, a peak action in 2-4 hours and a duration of action of 5-7 hours. It contains either phenol or cresol as preservative and glycerin as isotonicity agent. CZI is the most versatile of all insulins. It may be administered either s.c., i.m. or i.v. It is the drug of choice in diabetic emergencies (such as acidosis) and in acute infections. Its main use is as an adjunct to longer-acting insulins. It contains a small amount of zinc (added in the purification and crystallization procedures), but no added protein. Its use may precipitate hyperglycemia during the night or hypoglycemia between 10 a.m. and noon.

The onset of action of regular insulin in diabetic patients (as opposed to normal individuals) is slower and the duration of action longer. This is observed not infrequently in patients who have been insulin-dependent for 2 years or longer. Its activity is dose-dependent, i.e., the larger the dose, the higher the rate of absorption and the longer the duration of action. Regular insulin is absorbed at the same rate, regardless of the route of administration.

Insulin Zinc Suspension, Prompt, USP

Introduced in 1951, this is a modification of insulin which does not utilize phosphate or citrate ions, but makes use of an acetate buffer. Through adjustment of pH, a turbid suspension of amorphous insulin is formed. Administered s.c., this suspension has a rapid onset of action, a peak action of 5-11 hours and a duration of action of 12-16 hours. It contains zinc, to form the insoluble zinc-insulin complex, sodium chloride as an isotonicity agent and methyl paraben as preservative.

Neutral Insulin, USAN 10

First reported in 1964, this is a highly purified buffered solution of pork insulin. It is more stable than the regular, acidic insulin, perhaps because it has less tendency to form desamido types on storage. Potency of NRI is maintained over 12 months storage at room temperature. The clinical use of neutral insulin has failed to show any differences to ARI or regular insulin. It is anticipated that the United States Pharmacopeia will extend recognition to this insulin preparation, perhaps in the form of a separate monograph. One major advantage claimed for this new preparation is that it provides greater stability when it is mixed with other forms of insulin, due to its pH of 7.4. Onset, peak and duration of action are very similar to those of regular insulin, although some references claim a peak action of 3 hours and a duration of action of 6 to 8 hours, this giving it an action slightly different to regular insulin.

Globin Zinc Insulin Injection, USP

This is a clear solution of insulin, modified by the addition of zinc and globin, usually derived from sheep's blood. Both of these serve to form an insulin complex which is very slowly absorbed. The preparation also contains either phenol or cresol as a preservative and glycerin as a tonicity agent. Having a pH of 3.6, this preparation was at one time thought to be the ideal modification of insulin, as it has an intermediate onset, shows peak activity between 6-11 hours and a duration of action from 18-24 hours. However, an unacceptably high number of patients exhibit allergic reactions to this particular preparation and it is, therefore, not used too frequently anymore.

Isophane Insulin Suspension, USP

Neutral Protamine Hagedorn, or NPH insulin, was introduced in 1964. This suspension of modified insulin is produced by the addition of zinc and protamine to regular insulin, yielding a preparation which has a sufficiently long duration of action to protect most patients from

one day to the next. It has an intermediate type of onset, exhibits peak activity from 6-12 hours and its duration of action lasts from 24-28 hours. While it is usually administered s.c., it is actually faster absorbed if given i.m. Contrary to the action of regular insulin, larger doses of NPH yield lower rates of absorption. It is frequently used to treat severe and labile diabetics. A single dose will control most diabetics if given before breakfast.

The suspension has a pH of 7.4, regulated by a phosphate buffer, and contains either phenol or cresol and glycerin.

Based on the response to NPH insulin, diabetic patients have been classified as normal responders, i.e., those who would develop hyperglycemia only in relation to food ingestion, delayed responders, i.e., those who are hyperglycemic during the day and normoglycemic to hypoglycemic at night or early morning hours, and transient responders, i.e., those who exhibit hyperglycemia during the morning and evening, normoglycemia in the afternoon and possible hypoglycemia in the afternoon.

A dose increase in the delayed responder can lead to severe nocturnal or early morning hypoglycemia, without affecting diurnal hyperglycemia. A dose increase in long-acting insulins does not affect nocturnal or morning hyperglycemia in the transient responder, but can cause severe hypoglycemia in the afternoon.

Insulin Zinc Suspension, USP

This modification of insulin has an intermediate type of action, achieved by mixing 70 per cent of Extended (crystalline) Zinc Suspension and 30 per cent of Prompt (amorphous) Zinc Insulin Suspension. Its pH of 7.0 is stabilized by an acetate buffer and the suspension contains in addition methyl paraben, sodium chloride and zinc.

Its action is very similar to that of NPH and many patients can be maintained on a single daily dose of this preparation.

Protamine Zinc Insulin Suspension, USP

Introduced in 1936 by Hagedorn, this suspension is formed by the addition of zinc and excess protamine to insulin. This yields a complex which is almost insoluble at physiologic pH, thus giving the preparation a prolonged action. Peak activity occurs between 14-24 hours and its action lasts as long as 36 hours. While it is still used in stable diabetics who require only small doses of insulin individually and in mixtures with other insulins, it has been largely replaced by other insulin preparations. Its use entails a high risk of symptomatic hypoglycemia during the night. It has a pH of 7.2, due to a phosphate buffer and contains, in addition to zinc, phenol and glycerin, an amount of protamine more than that found in NPH insulin but less than that in globin insulin.

Insulin Zinc Suspension Extended USP

This preparation, with an action similar to that of PZI, has a prolonged onset of action, a peak activity with-

in 18-30 hours and a duration of action of at least 36 hours. An acetate buffer creates methyl paraben, zinc and sodium chloride. Its prolonged action is created by adjustment of particle size only.

Administration and Absorption of Insulins

All insulins, with the exception of regular insulin, should be administered s.c. If modified insulins are administered i.v., they will be changed immediately to the regular insulin molecule.

Insulins are absorbed directly into the blood stream, and, if administered into the arms, are absorbed faster than from the thighs.

Frequently, physicians will prescribe insulin for diabetic patients under stress, to be administered with I.V. fluids. Insulin, when added directly to these fluids, is stable in five and 10 per cent dextrose in water, with or without the presence of electrolytes. However, the flask and the tubing seems to absorb approximately 20 per cent of the insulin, the proportion being greater the smaller the number of units added.

Mixing of Insulins

The aim of all insulin mixtures is to combine the various types to meet an individual patient's need. Mixtures of Lente and Ultralente are used particularly in transient responders, while mixtures of lente and semilente are used primarily for delayed responders.

(1) Regular insulin and NPH

Any combination is possible. Mixing must be done immediately before use.

(2) Regular insulin and Lente

The amount of regular insulin used should not exceed 50 per cent of the mixture, or pH differences may cause changes which would make the time activity unpredictable. Must be mixed immediately prior to use.

(3) Regular insulin and PZI

Mixture should not contain less than 50 per cent of regular insulin, or the resulting mixture will have the activity of PZI itself. A ratio of two parts of regular insulin to one part of PZI yields an effective mixture, with the same onset and duration of action as NPH. Mixtures of these two insulins may be used at any time after preparation.

(4) Lente Mixtures

May be combined in any desired ratio. May be mixed at any time which means that a person other than the patient can prepare the mixture prior to dispensing it.

Dilution of Insulins

Eli Lilly and Company makes available, free of charge, insulin diluting fluids for regular, NPH, Lente and protamine zinc insulins. These sterile fluids contain the same ingredients as described in the official mono-

graphs of insulin products, of course omitting the insulin and any modifying materials.

In skin testing and desensitization, diluted regular insulin is used. The diluent can be isotonic saline solution, but if the solution is to be kept longer than eight hours, the regular diluting fluid should be used. One publication has recommended the addition of 0.5 per cent human albumin solution to the diluent before addition of the insulin, in order to prevent binding of insulin to the glass.

Empty sterile 20 ml. vials, labeled "Sterilized Bottle for Insulin Mixtures," are also available from Eli Lilly and Company.

Combination Therapy

Combination therapy of insulins and oral hypoglycemic agents should be used only in case of strict indication. Combined sulfonyl urea-insulin therapy has been mostly unsuccessful. However, the biguanides seem to have a definite potentiating effect in many cases of insulin-deficient diabetes. The aim of this particular therapy should be to improve the metabolic condition rather than the reduction of the insulin dosage, particularly in view of the danger of biguanide ketosis if insulin dosage is reduced too much.

Undesired Effects of Administration

(1) Insulin Lipodystrophy

These conditions are therapeutically harmless but would be very distressing to the patient. Aside from strict rotation of injection site, no mechanism or drug has been found effective in prevention or treatment of lipodystrophies.

a. Lipodystrophy

A sharply delineated loss of subcutaneous lipid. Occurs most frequently in children and adult males.

The most recent literature seems to indicate that a number of patients afflicted with lipodystrophy have obtained relief using single peak or single component insulin. The implications of these observations are not at all clear at this time, particularly as other patients have not received any benefit from either of the two preparations at all.

b. Lipohypertrophy

Occurs usually secondary to repeated injection at one site. Fibrous, avascular tissue develops.

(2) Use of Alcohol Prior to Insulin Administration

Potentially irritating impurities may be present in some grades of 70 per cent isopropyl alcohol. Thus, allergic responses may be produced at the site of injection. Should this occur, the 90 per cent isopropyl alcohol by Eli Lilly is recommended.

Undesired Effects of Insulins

(1) Extension Effect

The greatest complication of insulin therapy is its extension effect, i.e., hypoglycemia. The first indica-

tion of hypoglycemia is often the so-called Somogyi effect or rebound hyperglycemia 2-6 hours after an episode of hypoglycemia. This indicates that the insulin dosage must be reduced.

(2) Bilateral Presbyopia

This is blurred vision which occurs fairly frequently in newly diagnosed patients. As diabetes is brought under control, condition will stabilize, the patient should be so advised.

(3) Insulin Resistance

This condition, which can occur in the insulin-dependent patient after at least two years of treatment, has been classified as immune resistance due to the development of antibodies by the patient or as non-immune resistance, caused, for example, by obesity. Insulin resistance may co-exist with or follow insulin allergy. The literature further seems to indicate that at least some patients are selectively resistant to bovine insulin, while remaining sensitive to porcine insulin.

A patient is usually termed insulin resistant when more than 200 units of insulin are required for several days in the absence of acute complications.

(4) Insulin Allergy

The incidence of insulin allergy is not known, but it has been documented that as purer insulins have become available, the incidence has decreased. While at one time this was used to indicate that the causative agents may be the modifying substances added, the fact that Lente insulins can cause allergies would seem to make this statement somewhat doubtful.

The causative agents may well be pancreatic proteins unrelated to insulin and not removed during the manufacturing process, in addition to insulin and insulin-like substances. Discontinuous insulin therapy often augments the immune response to insulin. Pork insulin is recommended for skin testing, desensitization and treatment of patients with persistent reactions. In the small number of patients where this is ineffective, antihistamines or prednisone therapy must be considered. Single peak or single component pork insulin are probably the drugs of choice in treating insulin allergy.

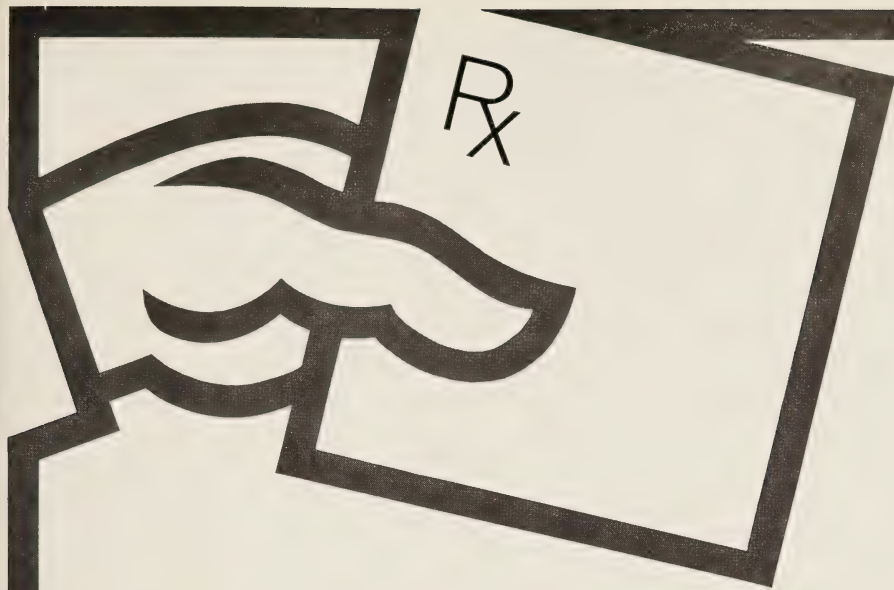
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Hospital Pharmacy

Section

Maryland Society of Hospital Pharmacists Holds Annual Seminar

The Maryland Society of Hospital Pharmacists conducted their Ninth Annual Hospital Pharmacy Seminar on June 28, 29 and 30, 1974 at the Motor House and Cascades Meeting Center in historic Williamsburg, Virginia. This year's seminar was entitled "Hospital Pharmacy—Providing a Total Service." The seminar participants heard presentations on many different aspects of hospital pharmacy service.

The weekend events began with a Friday evening reception during which the seminar participants became acquainted. The Saturday morning session included presentations on, "The History of Pharmacology in Respiratory Therapy" by James W. West, Associate Administrator of Mount Sinai Hospital of Greater Miami; "Inter-Professional Roles in the Health Care System and their Effect on Ambulatory Care," Bernard Lachner, President, The Evanston Hospital, Evanston, Illinois; "Current Status of Intravenous Therapy" by Richard Duma, M.D., Associate Professor of Medicine and Pathology, Medical College of Virginia; and "PSRO's, Foundations, and Cost Commissions—What Are They And How Will They Effect Hospital Pharmacy Programs and Services?", by Alvin D. Ankrum, Program Director, Maryland Foundation for Health Care.

The Saturday afternoon session provided an opportunity for the pharmacists to exchange ideas and participate in group discussions. The topics covered by these discussion groups included, "The Hospital Pharmacist in I.V. Therapy," "Drug Information Services—How to Get Started," "Selling Pharmacy Programs," "Unit Dose Distribution Systems" and "Clinical Pharmacy Service—How to Get Started." Each discussion group was moderated by an expert in the field.

During the final educational session on Sunday morning presentations were made on "Computer Based Drug Distribution System at the Harris Hospital," by Leo F. Godley, Director of Pharmacy, Harris Hospital, Fort Worth, Texas; "Prostaglandins in Reproductive Medicine," by David Blake, Ph.D., Assistant Professor of Gynecology—Obstetrics and Pharmacology, The Johns Hopkins University; and "Commission on Goals—Its Implication on the Organizational Structure of Pharmacy" by Don C. McLeod, M.S., Director of Pharmaceutical Services, Buffalo General Hospital.

On Saturday evening, during the annual Inauguration Banquet, officers were installed and awards were pre-

sented. Officers installed included, President, Vincent de Paul Burkhart, University of Maryland Hospital; President-Elect, Harry Hamet, The Johns Hopkins Hospital; Secretary Michael Luzuriaga, Maryland General Hospital; Treasurer, Ronald Telak, Maryland General Hospital; and Board of Directors (1974-1977 term) Arthur N. Riley, University of Maryland Hospital.

Following the presentation of the gavel to President Burkhart by Immediate Past President Thomas E. Patrick, Mr. Burkhart set the direction of the Society by saying that the Maryland Society had to lead the way in setting minimum standards of pharmacy service within the institutions of the state. Additionally he challenged the members to become more involved in PSRO's and their commitments to peer review.

The M.S.H.P.'s highest honor, the W. Arthur Purdum award, was presented to Henry Derewicz, M.S. for his continued excellence and leadership in hospital pharmacy in the state of Maryland. Mr. Derewicz is presently the Director of Pharmacy Service at The Johns Hopkins Hospital.

The Student Achievement Award which is awarded to the senior pharmacy student who exhibits outstanding scholastic work in Hospital Pharmacy was presented to Pamela K. Lindsay. Miss Lindsay is a native of Cumberland, Maryland, and was employed following graduation by the University of Maryland Hospital.

As outgoing president, Thomas E. Patrick was presented the Geigy Achievement Award for his efforts on behalf of the Society during his year as president. This award is presented annually by Geigy Pharmaceuticals a division of CIBA-Geigy.

A certificate of appreciation was presented from the Society to Donald Cathey of Philips Roxanne, Inc. for his continued assistance to the society and to the hospital pharmacists of the state of Maryland. A certificate of recognition of this nature is presented from time to time to persons who are not actively engaged in institutional pharmacy practice but take an active role in support of hospital pharmacy within the state.

The 1974 seminar was rated a success by those in attendance. The seminar was under the general chairmanship of Arthur Riley. Also serving on the committee were Henry J. Derewicz, Harry Hamet, G. Lawrence Hogue, John Mentzer, Thomas E. Patrick and Ronald Telak.



Maryland Society of Hospital Pharmacists Ninth Annual Seminar, upper left: Outgoing President Thomas E. Patrick (left) presents incoming President Vincent de Paul Burkhart (right) with gavel. upper right: Henry J. Derewicz (left) receives the 1974 W. Arthur Purdum Award from Peter P. Lamy, Ph.D. (right) 1973 W. Arthur Purdum Award recipient. middle left: Officers installed—front row—Vincent de Paul Burkhart, President and Harry Hamet, President Elect. back row—Ronald Telak, Treasurer; Michael Luzuriaga, Secretary; and Arthur N. Riley, Board of Directors (1974-1977 term). middle right: Pamela K. Lindsay (left) receives the Student Achievement Award from outgoing President Thomas E. Patrick (right). lower left: Donald Cathey (left) receiving MSHP certificate of appreciation from Paul Burkhart, President (right). lower right: Richard Plotkin, Geigy Pharmaceuticals (left) presenting the Geigy Achievement Award to outgoing president Thomas E. Patrick (right).

**Excerpts
From the
PHARMACY AND THERAPEUTICS
BULLETIN**

University of Maryland Hospital

ARTHUR N. RILEY, M.S., *Editor*

**G-6-PD Deficiency and Drug Induced
Hemolytic Anemia**

The association between the ingestion of certain drugs (or chemical substances) and hemolytic anemia in individuals with a deficiency in the enzyme glucose-6-phosphate dehydrogenase (G-6-PD) in blood cells is well documented. This enzyme deficiency appears to be inherited via a sex-linked gene on the X chromosome. Studies of families indicate that transmission occurs from mother to son, but not from father to son. The degree of expressiveness varies greatly in heterozygous females so that some have normal enzyme activity, some have virtually no activity, and most manifest intermediate degrees. G-6-PD is associated with the ability of the cell to maintain glutathione in a reduced state. Reduced glutathione is a component in the defense of the cell against certain stresses including infection, diabetic acidosis, and certain drugs.

There are two grades of G-6-PD deficiency. The "A" type is the milder form in which only the older red blood cells are destroyed when the offending agent is administered; therefore, the anemia is self limiting and the hemoglobin values may return to normal when the drug is continued. This "A" type occurs mainly in the Black population: about 10-15% in Black American males and about 1-2% in Black American females. The more severe form of G-6-PD deficiency is referred to as the "Mediterranean" type in which even young cells are hemolyzed and consequently the anemia is not self limiting. This form occurs mainly in Sephardic Jews, Greeks, Southern Italians, Sardinians, and Western Indians (India). The disease has also been found in Turkey, Egypt, New Guinea, China, and Indonesia.

The following drugs have been reported to produce clinically significant anemia in patients with G-6-PD deficiency. Those marked with an asterisk (*) have been implicated mainly along with the concurrent presence of unusual stress (e.g., infection).

Analgesics and Antipyretics

Acetaminophen* (Tylenol, Tempra, etc.)
Acetanilid
Acetophenetidin* (Phenacetin)
Aminopyrine* (Pyramidene)
Antipyrene*
Aspirin*
P-Aminophenol*

—R. A. Kerr, Pharm.D.

U-100 Insulin

In June, 1972, the Board of Directors of the American Diabetes Association adopted a statement, subsequently published in the Journal of the American Diabetes Association, that . . . "U-100 insulin will be made available in the United States and Canada." The "final goal," the announcement continued, "is the general use of U-100 insulin and the discontinuation of U-40 and U-80 insulins and the corresponding syringes at the earliest possible date."

The ADA cites as the chief reason for the introduction of the new strength the elimination of a dangerous situation, i.e., the availability of insulin in several strengths with different syringes, which has lead to misuse and incorrect use of insulin by many patients. U-100 insulin is marketed, as are all insulins, in a 10 ml. vial, containing 1,000 units of insulin. The bottle is color coded in black and white. The preparation should be refrigerated.

The following insulin preparations are available in the new strength, but only from Eli Lilly Company. E. R. Squibb is developing a U-100 insulin.

<i>Preparation</i>	<i>Source</i>
Regular	Mixture of beef and pork
Lente ^(R)	Mixture of beef and pork
Semilente ^(R)	Beef
Ultralente ^(R)	Beef
NPH	Mixture of beef and pork
PZI	Mixture of beef and pork

Eli Lilly plans to have pure pork and pure beef insulins (U-100) available at a later date.

U.S.P. insulin, marketed by all manufacturers, has a potency of 23-25 units/mg. and consists of 92% insulin-like substances, 6% pro-insulin-like substances, 1% insulin aggregates and 1% non-insulin substances.

All U-100 insulins available from Lilly are "single peak" insulins. Single peak insulin has a potency of 26-27 units/mg. It consists of 99% insulin and pro-insulin



—Photos by Paramount Photo Service

Top photo: Morris Cooper (center) showed and discussed his color slides of several religious shrines in Europe and the Holy Land during the afternoon session of LAMPA's Spring Regional Meeting. Also shown are (l. to r.) Mrs. Richard Crane, Mrs. S. Ben Friedman, Mrs. Anthony G. Padussis, Mrs. Harry Schrader and Mrs. Sol Weiner. The group toured Cylburn Wildflower Preserve in the morning. Bottom photo: MPhA President Paul Freiman discusses Poison Prevention Week with Charles E. Spigelmire, MPhA Public Relations Chairman and host of the weekly radio program "Your Best Neighbor."

like substances and 1% non-insulin materials. Single peak insulin, as such, is not identified on the label.

Several manufacturers have marketed syringes corresponding to the new strength insulin. There are three syringes:

- A. A 0.35 ml. 35 unit glass syringe (Luer Tip), graduated in one unit increments. This is a tuberculin-type syringe which appears to be extremely fragile, more so than the traditional long or short type insulin syringes.
- B. A 1 ml. glass syringe (Luer Tip) graduated to 100 units in 2 unit increments. This is also a tuberculin-type syringe, very similar to the old style long type insulin syringe.
- C. A 1 ml. plastic syringe, with a 26 G $\frac{1}{2}$ inch needle attached, calibrated in 2 unit increments.

According to regulations, this syringe must, of course, deliver within $\pm 5\%$ of the designated volume. However, it would appear inadvisable to ask patients to use this syringe to administer 20 units or less.

The F.D.A. has informed pharmacies that the new U-100 concentration of insulin must be administered with the new 100 unit syringe (Memorandum—C. H. Tregoe, Chief, Division of Drug Control, Maryland, September 10, 1973).

Unfortunately, a 35 unit disposable syringe has not yet been marketed and will probably not be marketed for some time. For patients who receive doses larger than 100 units, it is planned to market 2 ml. glass and disposable syringes.

—Peter P. Lamy, Ph.D.

The Poison Pen . . .

Synopsis of The Annual Report of The Maryland Poison Information Center For 1973

Gary M. Oderda, Pharm.D., Director; Mary S. Furth, M.D., M.P.H., Medical Director; Jacquelyn S. Lucy, M.A., Poison Information Officer; Marian H. Brody, M.A., Research Analyst.

During 1973, the Maryland Poison Information Center (MPIC) noted a marked expansion of coverage to a wider geographic area with an increased number of calls from all areas, especially the Baltimore inner city. The Center assumes that an increased awareness on the part of the public as to the Center's existence has produced this increase.

As the Maryland Poison Information Center completed its eighth full year of operation and its second year at the University of Maryland School of Pharmacy, many administrative changes had occurred. Early in 1973, Karen Collins, R.Ph., the Assistant Director, and Andrea Rander, the Secretary, resigned. Jacquelyn Lucy, M.A., and Marian Brody, M.A., joined the staff as interim Assistant Director and Secretary, and Research Analyst respectively, while Mary Furth, M.D., M.P.H., continued as the Director. In July, the administrative structure was reorganized to allow the Center to be co-directed by Dr. Furth, as the Medical Director, and Gary M. Oderda, Pharm. D., as Director. Ms. Lucy continued as the master Poison Information Officer-Secretary. Dr. Furth's training in Medicine, Dr. Oderda's background in Pharmacy, and Ms. Lucy's training in counseling form a strong, well-rounded data base to handle the varying complexities of the calls coming into the Center.

Pharmacy and medical students continued to form the temporary staff of Poison Control Officers so that the Center could continue to offer its 24-hour service. The Poison Control Officers for 1973 were: Reed Failing, Anthony Tommasello, John McGrath, Gregory Elliott, Tim Bessent, James Babb, Claude Nogay, Bruce Beacham, John Bender, David Bennion, and Steve Branning. During the year, Reed Failing and Claude Nogay acted as the coordinators for the Officers.

STATISTICAL INFORMATION:

The total number of calls received by the MPIC increased markedly in 1973 continuing the previous trend. This increase occurred in all categories with the total number of ingestion calls increasing from 5,707 to 8,990, a 57.5% increase. A call is recorded as an ingestion if a human being is exposed to a substance (usually a drug, chemical, or household product) be it toxic or non-toxic by any route (i.e., oral, topical, rectal, parenteral, etc.). The total number of calls received increased from 8,223

to 11,468, a 39.5% increase. In addition to ingestions, total calls included inquiries about animals as well as all other calls requesting medical information that did not involve an ingestion. For a breakdown of these calls by age group and class of ingested compound, see Table I. It was postulated that this increase would produce a decrease in the number of emergency room visits due to poisoning. However, our statistics indicate that the number of emergency room visits continued to increase. For the seven local hospitals that report their ingestion data to us, an increase of 273 emergency room visits due to poisoning, 14.5%, was reported. During the same period the number of our ingestion calls increased by 57.7%. The disparity between these percentages suggests that despite the increase in emergency room visits a greater proportion of poison calls is being handled by the MPIC.

The lay public continues to be our most frequent group of callers. The increase in calls appears to reflect a greater public awareness with regard to the Center's existence and function. Although the percentage of calls from medical personnel regarding ingestions has risen slightly from (14.9% to 16.1%) in 1973, many of these medical calls have demanded a great deal of expertise on the part of the staff; often complex consultations have been required.

TABLE I
MPIC YEARLY TOTALS FOR 1973

SUBSTANCE INGESTED	AGE UNKNOWN	LESS THAN 1	1-4	5-11	12-24	OVER 25	TOTAL
ASPIRIN	8	4	290	28	75	27	432
TRANQUILIZERS BARBITURATES	16	6	167	15	235	192	631
OTHER INTERNAL MEDICINES	34	21	1301	122	387	167	2032
EXTERNAL MEDICINES	11	55	511	27	30	54	688
HOUSEHOLD PRODUCTS	29	60	683	58	36	105	971
PETROLEUM DISTILLATES	22	34	588	57	100	92	893
PESTICIDES	7	33	313	23	21	54	451
PLANTS	10	62	357	42	14	9	494
MISC.	56	147	1040	170	132	180	1725
COSMETICS	5	43	570	22	10	23	673
TOTAL	198	465	5820	564	1040	903	8990

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Indications:

Staphylococcus aureus: Acute infections of skin and soft tissue of mild to moderate severity. Resistance may develop during treatment.

Diplococcus pneumoniae: Upper respiratory-tract infections (e.g., otitis media, pharyngitis) and lower respiratory-tract infections (e.g., pneumonia) of mild to moderate degree.

Mycoplasma pneumoniae (Eaton agent, PPL0): In the treatment of primary atypical pneumonia, when due to this organism.

See package insert for other indications.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when

indicated.

Adverse Reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy there is a possibility of overgrowth of nonsusceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Treatment of overdose: The drug is virtually nontoxic, though some individuals may exhibit gastric intolerance to even therapeutic amounts. Allergic reactions associated with acute overdosage should be handled in the usual manner—that is, by the administration of adrenalin, corticosteroids and antihistamines as indicated and the prompt elimination of unabsorbed drug, in addition to all needed supportive measures.

How supplied: 250 mg.—in bottles of 100 and in unit-dose packages of 100 enteric-coated tablets. Caution: Federal law prohibits dispensing without prescription. *For additional product information, consult the package insert or see your Upjohn Representative.*

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The large majority of the Center's calls concern the pediatric population, especially children under 5 years of age. However, the percentage of calls in the under 5 group has dropped from 78% of the total in 1972 to 72% in 1973. Although this age group represents the majority of calls, a large number of these ingestions were either sub-toxic or non-toxic.

In 1973, increases were seen in all older age groups; the largest increase occurred in the over 25 age group. The more serious ingestions in the over 12 age group often included multiple drugs.

Although our current data indicates an increase in the number of individuals ingesting more than once, i.e. repeaters, this is probably due to more exacting reporting in the pediatric age group. Similarly, the number of attempted suicides appears to have decreased by 33.3% in 1973. On the other hand, the number of instances in which the intent was unknown has increased by approximately 200%. It is highly probable that some of the calls classified in the past as attempted suicides are now placed in the intent unknown category. This shift in classification most probably resulted from greater discriminating ability of the staff.

GENERAL DISCUSSION

Poisoning Patterns:

The percentage of calls involving aspirin ingestions dropped again this year to 4.8%, a decrease of 33.3% over 1972. Both an increased public awareness of the danger of salicylates, and the use of safety containers have probably been involved in this decrease.

Tranquilizer and barbiturate ingestions show a slight increase in both the under 5 and over 25 age groups. These agents are the most commonly ingested in the over 12 age groups. This is undoubtedly due to the availability, high abuse potential, and the popularity of these drugs as suicidal agents. Data from ingestion of these agents as well as external medicines, other internal medicines and the combination of household products, petroleum distillates, and pesticides over the last three years, are shown in Table II.

Other internal medications showed a decrease in the under 5 age group, but a substantial increase in all other age groups. Similar patterns are seen in external medications and the combination of household products, petroleum distillates, and pesticides.

Although the percentage of calls in all these categories in the under 5 age group did decrease, the total number of calls in these categories increased. The percentage of decrease was produced by a tremendous increase in the number of calls in the older age groups. As an example, the ingestion of household products, petroleum distillates and pesticides in the over 25 age group accounted for an increase of approximately 200% over 1972 figures.

Deaths:

A significant decrease, 49.1%, was seen in the number of deaths due to poisoning in 1973: 255 deaths in 1972 and 171 in 1973. This overall decrease can be explained by major drops in two categories: 1) Narcotics (and/or narcotism and 2) Gases (more specifically, carbon monoxide). Thirty-two deaths from narcotics and/or

TABLE II
PERCENTAGE BREAKDOWN BY AGE AND
CLASS OF INGESTED COMPOUND (1971-73)

DRUG CLASS	AGE UNKNOWN	5	5-11	12-24	OVER 25
TRANQUILIZERS & BARBITURATES					
1973	2.5	27.4	2.4	37.2	30.4
1972	4.9	22.5	4.3	42.3	26.0
1971	8.2	38.0	4.5	25.3	24.1
OTHER INTERNAL MEDICINES					
1973	1.7	65.1	6.0	19.0	8.2
1972	1.5	75.9	5.8	12.0	4.8
1971	3.2	75.8	5.2	10.4	5.3
EXTERNAL MEDICINES					
1973	1.6	82.3	3.9	4.4	7.8
1972	1.3	89.0	1.8	2.9	5.1
1971	0.4	89.2	4.3	1.8	4.3
HOUSEHOLD PRODUCTS, PETROLEUM DISTILLATES, & PESTICIDES					
1973	2.5	73.9	6.0	6.8	10.8
1972	2.4	85.0	4.1	3.5	5.1
1971	3.2	87.4	3.2	1.9	4.3

narcotism were seen in 1973 as compared with 83 the preceding year. A drop from 74 to 56 deaths from gases was seen in the same period. It is known that 73.2% of the deaths from gases were either substantiated as suicides or evidence pointed to the behavior as suicidal ("equivocal"). The usual method employed in suicide by gas involved channeling automobile exhaust into a closed car or running a motor in a closed garage. Mortality data for 1973 is shown in Table III.

The number of deaths from drugs and chemicals, other than narcotics and gases, has remained at the same level as during 1972. Barbiturates are still responsible for the largest number of deaths.

Only two children under 4 years of age died from poisoning in 1973 as compared with six childhood deaths in 1972. In each of these years, one child died from a petroleum distillate ingestion. This emphasizes the need to be sure that manufacturers package these products in safety containers and that parents recognize their toxicity and store the products accordingly.

The number and pattern of deaths due to suicide, or accidents involving drugs or other poisons has changed little since 1972. However, there was a three-fold increase in the proportion of equivocal suicides while a drop was seen in the percentage of deaths from narcotics. When one

TABLE III
POISONING DEATHS FOR 1973 FOR MARYLAND

SUBSTANCE	ACCIDENT	SUICIDE	EQUIVOCAL	TOTAL NUMBER
CARBON MONOXIDE				
a) MOTOR VEHICLE EXHAUST	11	34	-0-	45
b) OTHER (DOMESTIC ETC.)	2	3	2	7
OTHER GASES	2	1	1	4
PSYCHOTROPIC DRUGS	1	3	2	6
BARBITURATES	1	25	8	34
SALICYLATES	-0-	2	2	4
OTHER DRUGS *	4	11	2	17
OTHER UNSPECIFIED SOLIDS & LIQUIDS **	8	10	3	21
ALCOHOL	1	-0-	-0-	1
NARCOTISM	32	-0-	-0-	32
TOTALS	62	89	20	171

* INCLUDES 1 DIGITALIS AND 2 DARVON (R) AMONG THESE.

** INCLUDES A FLUORIDE, A CORROSIVE, A PETROLEUM DISTILLATE, AND
AND A LINIMENT AMONG THESE.

considers suicide, equivocal, and narcotism under the rubric of "self-destructive behavior," the proportions for this behavior in 1973 are comparable for those of 1972.

Future Plans:

During the coming year, the MPIC hopes to increase its involvement in the following areas:

1. Services to emergency rooms, especially University Hospital emergency room, such as protocol books and direct involvement of MPIC in treatment of poison patients.
2. Coordination with community agencies to develop broader geographic coverage. The Center hopes to complete its up-dated Resource Manual by January, 1975.
3. Encourage the establishment of, or improvement of existing emergency toxicological laboratory services.

The Center will also be evaluating the direction in which it will be concentrating its efforts. This will be dependent on both the needs of the professional and general community and our available resources. The concentration of efforts will likely be in either the technical aspects of poisoning, for example pharmacokinetic and bio-availability factors affecting the ingestion of drugs and/or toxins or in the social-psychological or behavioral aspects of poisoning.

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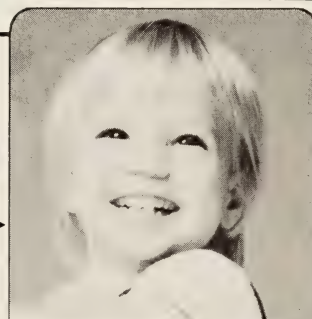


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U.S. Pharmacopeia Purchases National Formulary

Unification of the two official drug compendia, the *United States Pharmacopeia* and the *National Formulary*, will be accomplished by sale of the NF to the USP Convention, Inc.

The announcement was made by Dr. William S. Apple, Executive Director of the American Pharmaceutical Association, and Dr. William M. Heller, Executive Director of the United States Pharmacopeial Convention.

The agreement was reached after four years of merger discussions. The breakthrough was achieved when the APhA Board of Trustees, in a letter from President George Denmark to USPC President John Moyer, indicated APhA's willingness to consider an offer of purchase from the USPC.

APhA Responsible For NF XIV

Under the terms of a memorandum of intent signed by both executive directors, NF XIV, now in preparation, will be issued by APhA at the end of this year. After the date of publication, USP will assume responsibility for supplements to NF XIV, the NF Reference Standards program, and associated laboratory services. The equipment and supplies of the Drug Standards Laboratory will be transferred, by a separate purchase from the APhA Foundation.

Dr. Heller saluted the APhA decision, saying "It answers the cry of both government and the professions for a single, national compendium and compendial organization. The sale of the NF represents a sacrifice on the part of the APhA to the benefit of the public and the medical and pharmaceutical professions. A unified standards-setting organization is necessary to expedite the work of the voluntary scientific community in keeping pace with expanding state and national government needs."

NF Founded In 1888

Since its founding in 1852, one of the primary objectives of the APhA has been to keep inferior and adulterated drugs from the market. Moreover, pharmacists have long been cooperating with physicians in the revision of the Pharmacopeia, which had been established in 1820. The APhA established the National Formulary in 1888 to provide standards for drugs not recognized in the USP. The NF has always been a source of pride for the APhA. Over the years through the generous support of the APhA and the diligence of its scientists, the National Formulary has gained a reputation as one of the leading compendia in the world. It has been afforded legal recognition along with USP by state and federal laws.

A Preview of Community Pharmacy .. 1973

The preliminary *Lilly Digest* report of 1,088 community pharmacies indicates that efficient management controls and rising sales brought about a turnaround of the five-year profit falloff.

Total sales grew 8.9% and reached a record-high level of \$263,377. Both prescription and nonprescription sales rose substantially, although prescription sales (up 10.2%) continued to grow faster than the nonprescription area (up 7.7%). This long-standing trend reflects the increasing importance of prescription activity in the average community pharmacy.

The number of prescriptions dispensed during the year went up to 27,475—an increase of 6.7%. The average prescription charge increased by fourteen cents (3.2%) and now stands at \$4.52.

The reversal in the profit downturn seems to stem from decreasing merchandise costs and effective control of expenses. The cost-of-goods-sold figure dropped to 63.7%, and expenses held steady at 32.5% of total sales. Net profit, reported at 3.6% of sales last year, increased to 3.8%. Further evidence of greater control can be found by the examination of inventory figures. The average inventory investment continued to increase; however, as a percent of total sales, it fell off to 17.0%. Each dollar invested in prescription inventory returned \$8.19 in sales (up from \$8.07 in 1972), and the investment in nonprescription inventory returned \$4.70 (the same as last year).

Summary

The preliminary *Lilly Digest* report of the 1973 operating figures of 1,088 community pharmacies is compared with the 1972 *Lilly Digest* average of 1,823 pharmacies and is summarized in the following table.

PRELIMINARY LILLY DIGEST - 1973

Averages Per Pharmacy	1972 (1,823 Pharmacies)	1973 (1,088 Pharmacies)	Amount and Percent of change
Sales			
Prescription	\$112,777-- 46.6%	\$124,289-- 47.2%	+ \$11,512-- 10.2
Other	129,133-- 53.4%	139,088-- 52.8%	+ \$ 9,955-- 7.7
Total	\$241,910--100.0%	\$263,377--100.0%	+ \$21,467-- 8.9
Cost of goods sold	154,566-- 63.9%	167,769-- 63.7%	+ \$13,203-- 8.5
Gross Margin	\$ 87,344-- 36.1%	\$ 95,608-- 36.3%	+ \$ 8,264-- 9.5
Expenses			
Proprietor's or manager's salary	\$ 20,304-- 8.4%	\$ 21,493-- 8.2	+ \$ 1,189-- 5.8
Employees' wages	29,104-- 12.0	31,283-- 11.9	+ \$ 2,179-- 7.5
Rent	6,077-- 2.5	6,797-- 2.6	+ \$ 720-- 11.8
Miscellaneous operating costs	23,142-- 9.6	26,027-- 9.8	+ \$ 2,885-- 12.5
Total expenses	\$ 78,627-- 32.5%	\$ 85,599-- 32.5%	+ \$ 6,972-- 9.0
Net profit (before taxes)	\$ 8,715-- 3.6%	\$ 9,908-- 3.8%	+ \$ 1,193-- 13.7
Total income (net profit plus proprietor's salary, before taxes)	\$ 29,019-- 12.0%	\$ 31,401-- 12.0%	+ \$ 2,382-- 8.2
Value of inventory at cost and as a percent of sales			
Prescription	\$ 13,969-- 12.4%	\$ 15,176-- 12.2%	+ \$ 1,207-- 8.6
Other	27,486-- 11.3%	29,618-- 11.2%	+ \$ 2,132-- 7.8
Total	\$ 41,455-- 17.1%	\$ 44,794-- 17.0%	+ \$ 3,339-- 8.1
Annual rate of turnover of inventory	3.8 times	3.8 times	
Number of prescription dispensed			
New	11,823-- 45.9%	12,551-- 45.7	+ \$ 728-- 6.2
Renewed	13,926-- 54.1%	14,924-- 56.3%	+ 1,004-- 7.2
Total	25,743--100.0%	27,475--100.0%	+ 1,732-- 6.7
Average prescription charge	\$4.38	\$4.52	+ \$ 0.14 -- 3.2

TAMPA News

The June meeting of the Traveler's Auxiliary of the Maryland Pharmaceutical Association was held at the Quality Courts Motel on York Road. The meeting was opened by prayer followed by the pledge to the flag. After the dinner, President Abe Bloom called upon his committees for reports. MPhA officers Anthony G. Padussis and Paul Freiman were introduced. Minutes of the previous meeting were read and approved.

New members approved were Fred E. Manus, Michael Leach and David Harrison. Paul Freiman discussed the Annual MPhA Convention. President Abe Bloom reviewed the TAMPA activities and responsibilities for the Convention.

John Fagan reported on the annual Crab Feast. This was followed by a tour of the Quality Court Motel facilities.

Eastern Shore Pharmaceutical Society

The Annual Crab Feast of the Eastern Shore Pharmaceutical Society was held on August 11 at Chambers Park in Federalburg. Hosts for the affair were William Smith and James Truitt.

Allegany-Garrett County Pharmaceutical Association

The Allegany-Garrett County Pharmaceutical Association recently held a meeting with election of officers. John Balch was elected President; Henry Glick was elected Vice President; and Robert Jay Martin was elected Secretary-Treasurer. Elected to the Executive Committee were C. Murray Allen, Stephen Hospodavis, Guy Dowling and Ernie Gregg.

Various problems confronting area pharmacists were discussed and plans are being formulated for a meeting in Garrett County later this month.

A.Z.O. News

The Alpha Zeta Omega Pharmaceutical Fraternity has announced its calendar of activities for the 1974-1975 year. All meetings will be held at the Suburban House in Pikesville. Meetings include a speaker or film presentation.

September 15, 1974	Sunday Breakfast 11:00 a.m.
October 13, 1974	Sunday Breakfast 11:00 a.m.
November 13, 1974	Wednesday Night 10:00 p.m.
December 8, 1974	Sunday Breakfast 11:00 a.m.
January 12, 1975	Sunday Breakfast 11:00 a.m.
February 12, 1975	Wednesday Night 10:00 p.m.
March	Joint Dinner Meeting
April 13, 1975	Sunday Breakfast 11:00 a.m. Nominations
May 18, 1975	Sunday Breakfast 11:00 a.m. Elections
June 17, 1975	Wednesday Night 10:00 p.m.

Kappa Chapter's Annual Joint Installation Brunch was held on July 21 at the Tail of the Fox. A crab feast was scheduled on August 25 at Gordon's of Pikesville.

The 384th meeting of the Baltimore Veteran Drug-gists' Association was held on June 12, 1974.

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District Wholesale Promotes Mulitz

District Wholesale Drug Corporation of Landover, Maryland, Division of Spectro Industries, Inc., announces the appointment of Benjamin S. Mulitz as Executive Vice President and General Manager. Mr. Mulitz, formerly Vice President of Operations, has been with the company for twenty (20) years. Mr. Richard H. Levin has been appointed Operations Manager. Mr. Levin, formerly controller of the company, is a graduate of Lehigh University and Georgetown Law School.

SKIN CANCER—Skin cancer is the form of cancer that occurs most often among Americans, reports the National Institutes of Health. Fortunately, it is 95 percent curable by surgery or irradiation. For many patients, radiotherapy is the treatment of choice because it may destroy cancerous tissues with little damage to surrounding areas and overall appearance. Low-voltage radiotherapy is useful for small superficial skin cancers.

Obituaries . . .

Joseph S. Milan

Joseph S. Milan, pharmaceutical representative with Winthrop Laboratories for 33 years until his recent re-

irement, died on June 29 after suffering a heart attack. He was 65 years old. Mr. Milan graduated from the University of Maryland School of Pharmacy in 1930. He is the brother of Dr. Albert R. Milan, a Baltimore obstetrician.

Walter Hollander

Walter Hollander, 87, died on June 30. He retired nearly 20 years ago as Treasurer and Advertising Manager of the Maryland Pharmaceutical Company, original developers of REM cough syrup. Mr. Hollander was active in educational and political affairs.

William A. Bailone, Jr.

William A. Bailone, Jr., 43, pharmacist at Korvette's West and 1956 graduate of the University of Maryland School of Pharmacy, died on July 4.

C. D. Brice, Jr.

Charles Carroll Brice, Jr., retired Annapolis pharmacist, died on July 5. He was 72 years old.

William B. Davis

William B. Davis, 69, Easton pharmacist, died on July 7 following an apparent heart attack. He graduated from the Milton College of Pharmacy in 1930.

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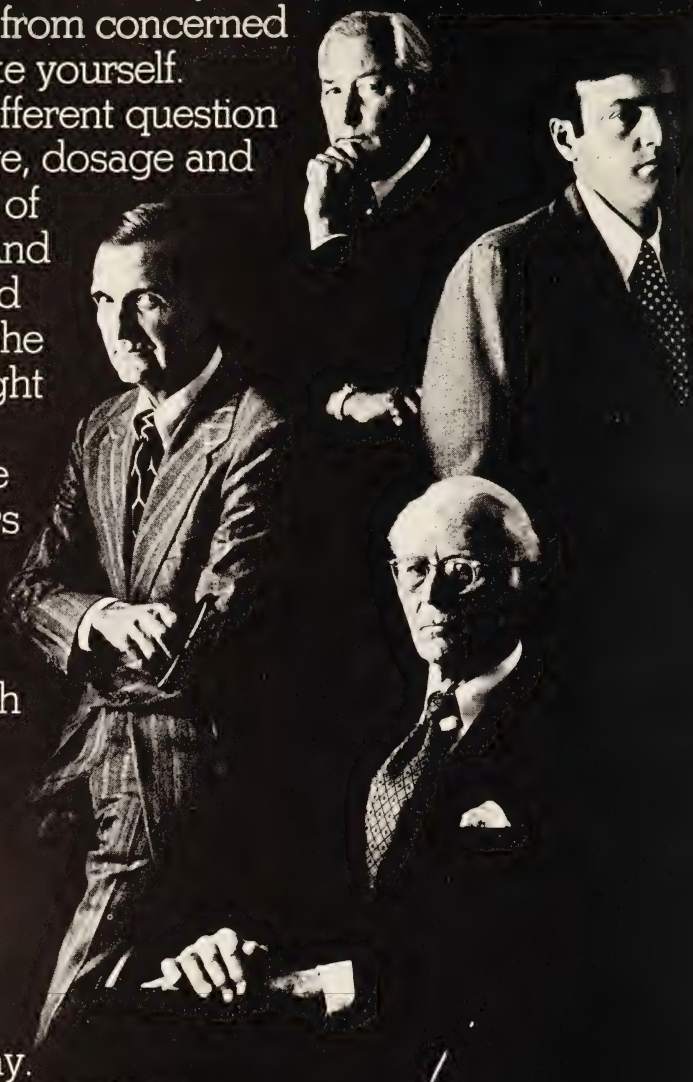
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MPhA — TAMPA — LAMPA Convention Photo Coverage

Diagnostic Tests And The Geriatric Patient

by Berry J. Means and Peter P. Lamy, Ph.D.

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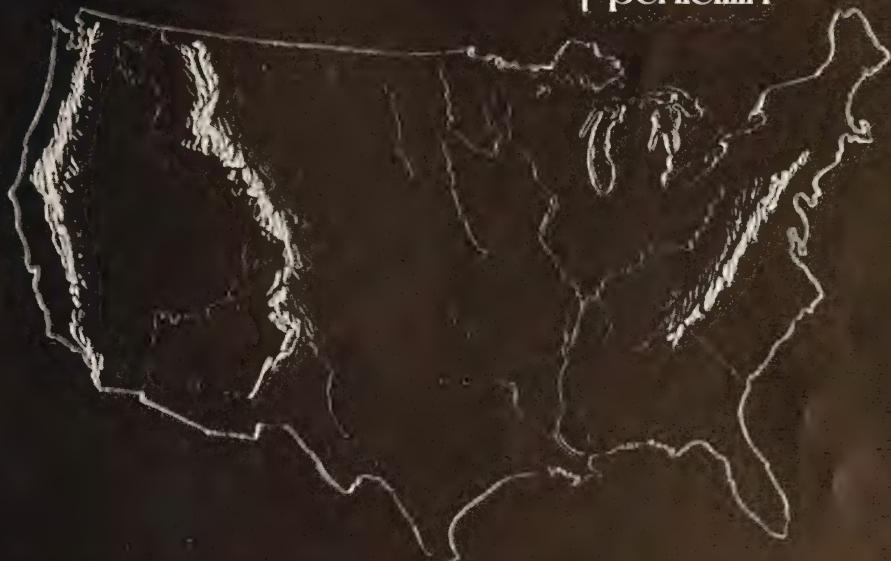
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Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not

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Editorial . . .

PSRO ADVISORY GROUPS

Appearing in this issue is a summary of the final draft of the Department of Health, Education and Welfare's Guidelines for Selection of Advisory Group Members to PSRO's (Professional Standards Review Organizations).

In the April, 1974 issue of *The Maryland Pharmacist*, PSRO was described as a program organized, administered and controlled by local physicians to evaluate the necessity and quality of medical care delivered in their area under federally funded health care programs (Medicare, Medicaid, etc.). The Advisory Group, however, provides a formal mechanism for the input of *non-physician health care practitioners* into the Professional Standards Review Program.

Of particular importance to pharmacists is that advisory group members shall have been recommended by an organization in the State or PSRO area representing the respective group of health care practitioners. Representation of nurses, pharmacists, and dentists is encouraged. A procedure for nominating and appointing advisory group members is included in the draft.

The advisory group will assist the PSRO in assuring that non-physician health practitioners have an active part in the review process. The advisory group will review the formal plan developed by the PSRO for the review process of services provided by non-physician health care practitioners. In addition the advisory group will submit an annual report to the Department of HEW assessing the involvement of non-physician health care practitioners in the Professional Standards Review program.

The PSRO Advisory Group will afford pharmacy another opportunity to demonstrate our value and important role in the health care system.

—Normand A. Pelissier

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Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of August:

New Pharmacies

Ye Olde Apothecary, Murhl L. Flowers, 14703 Main Street, Upper Marlboro, Maryland 20870.

GEM-AID Drug Store, Thomas H. Blatt, President; 3120 Branch Avenue, Suitland, Maryland 20031.

Fenwick Apothecary, N. Sober, S. Sober, K. Sober, H. Sober; 1900 East Northern Parkway, Baltimore, Maryland 21212.

Changes of Ownership, Address, Etc.

Forest Glen Medical Center Pharmacy, Yong W. Park, President (Change of ownership); 9801 Georgia Avenue, Silver Spring, Maryland 20902.

Howard County General Hospital-Pharmacy, R. M. Heyssel, President (Change of hospital name—was: Columbia Hospital); Little Patuxent Parkway, Columbia, Maryland 21044.

Kitchin Drugs, Bennie G. Owens, President (Change of address—was: 72 West Street); 60 West Street, Annapolis, Maryland 21401.

No Longer Operating As Pharmacies

Evans Distributors and Jewelers, Inc., Stephen H. Baumgarten, President; 5060 Nicholson Lane, Rockville, Maryland 20852.

Fullerton Pharmacy, Inc., Eugene Trief, President; 7542 Belair Road, Baltimore, Maryland 21236.

PHARMACY CALENDAR

November 14 (Thursday)—Maryland Pharmaceutical Association House of Delegates and Fall Regional Meeting, Colony 7 Motel Inn, Baltimore-Washington Parkway.

December 8-12—American Society of Hospital Pharmacists Midyear Clinical Meeting, Bal Harbour, Florida.

1975

January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

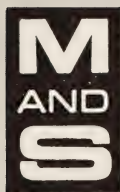
January 16-24—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Group II, Princess Kaiulani Hotel, Honolulu, Hawaii.

February 9 (Sunday)—Annual Installation Banquet, Baltimore Metropolitan Pharmaceutical Association, Blue Crest North.

April 19-24—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.

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MPhA In Action

Board of Trustees Meeting

NATHAN I. GRUZ, *Executive Director*

June 6, 1974

- Received communication regarding MPhA participation in 1975 V.D. Awareness Program.
- Received letters of complaint regarding pharmaceutical services from two individuals, which were referred to the Peer Review Committee.
- Approved President's report noting his trip with the state medical society to Greece, which included a number of well attended professional seminars. The President also urged further activity by COPEs (Committee on Pharmacy Economic Security) and called for increased action to get greater attendance at MPhA conventions. He also attended pre-convention meeting of TAMPA (Traveler's Auxiliary).
- Approved Treasurer's report.
- The Executive Director reported on his testifying with Dean Kinnard regarding the governor's veto of H.B. 1636 which would have required auxiliary caution labels on prescriptions for broad classes of drugs. This was preceded by considerable discussion with the sponsors of the bill, Secretary of the Board of Pharmacy and others. A special section on Institutional Pharmacy will be established in *The Maryland Pharmacist* under Dr. Peter P. Lamy.

Other activities included the Maryland Health Maintenance Committee; conference with the Board of Pharmacy Secretary regarding the interpretation of "in each case" in connection with the drug product selection law; and BMPA regular meeting at which there was an excellent discussion of the issues. The BMPA has recommended a \$25.00 increase in MPhA dues and a reward for information regarding holdups of pharmacies. The Executive Director also attended the Alumni Banquet, School of Pharmacy Convocation, conference with State Medical Society and Pharmaceutical Services Foundation on drug utilization and participated in the Maryland Society of Association Executives. He also arranged for a group charter to the NARD convention. A brief report on the meeting of the Maryland Board of Pharmacy was also presented.

- Received School of Pharmacy report noting that there were three applications for each vacancy for 1974-1975. Fifty per cent of the new class will be women with the QPA of the new class being 3.2.
- Received Board of Canvassers report noting results of mail ballot: President Elect, Henry G. Seidman; Vice-President, Melvin N. Rubin; trustees for three year term, Stanley J. Yaffe and S. Ben Friedman.
- Approved Membership Committee report.
- Approved Convention Committee report presenting status of convention program and registration.
- Approved Legislative Committee report which reviewed efforts to obtain veto of H.B. 1636.

- Received report of Legal Counsel. Together with the Legislative Committee, legal counsel will review developments in the area of pharmacy ownership laws. Legal counsel has been conferring with the attorney for the Construction Workers Union and has a favorable understanding expecting a reply by the end of the month. Other programs which may be violating freedom of choice will be looked into following resolution of the Construction Workers Plan. He also commented on the attention given to various aspects of advertising and price posting by the Federal Trade Commission. As to legal action against the State for delinquent payments for Medicaid the MPhA per se could not take action but could assist individual pharmacists who have outstanding bills.
- Appointed Morris Bookoff to chair a committee which will draw up comments on the state proposals regarding pharmacy services in nursing homes.
- Heard report on the Liaison Committee of the MPhA House of Delegates with the various local associations.
- Established an annual MPhA award for proficiency in the practice of community pharmacy to be awarded to a student at the University of Maryland School of Pharmacy.
- Approved a financial contribution for SCODAE (Student Committee on Drug Abuse Education).
- Approved the Constitution and By-Laws Committee recommendation on the proposals of Mr. Neal Jacobs with amendments that the Secretary of the Maryland Board of Pharmacy not be included as an ex-officio member of the Board of Trustees and that the Executive Director shall be an ex-officio member with vote.
- Referred proposed "Uniform Institutional Pharmacy Law" from Maryland Society of Hospital Pharmacists to the Legislative Committee.

June 25, 1974

Downingtown Inn
Downingtown, Pennsylvania

- Approved Nominating Committee report: for Honorary President—Harry L. Schrader; for President-Elect — Melvin N. Rubin and Irvin Kamenetz; for Vice President—Richard D. Parker and James W. Truitt; for Treasurer—Morris Lindenbaum and Jerome Mask; for Trustees — for one vacancy — Milton Watkowski and Rudolph Winternitz; for second vacancy—Robert E. Snyder and Samuel Lichter.
- For Speaker of the House of Delegates 1974-1975—S. Ben Friedman; for Vice Speaker—Irvin Kamenetz.
- For Maryland Board of Pharmacy for a Baltimore City vacancy for the term of Frank Block which expires in May, 1975—Robert E. Snyder, Dolores Ichniowski and Charles E. Spigelmir.

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June 26, 1974

Downingtown Inn

Downingtown, Pennsylvania

—Approved the appointment of the following committee chairmen:

Finance Committee Stanley J. Yaffe
Legislative Committee Melvin N. Rubin
Membership Committee Mark Levi
Prescription Insurance Plans (Third Party) —
Barry Statter

Pharmacy Practice Committee and
Swain Seminar Committee Henry G. Seidman
Professional Relations Committee.....Bernard B. Lachman
Public Relations Committee Charles E. Spigelmire
Employee Affairs Committee Douglas Kadan
Peer Review Committee Irvin Kamenetz
Drug Evaluation Committee Dr. Thomas Sisca
Consumer Affairs Committee Dr. Benjamin Hodes
Convention and Tours Committee Ronald Lubman

New Members

The following is a list of the new members approved at the June 6, 1974 meeting of the Board of Directors of the Maryland Pharmaceutical Association:

George E. Harrington, Adelphi, People's Drug Stores
Eric S. Kramer, Wheaton, Dart Drug

Mary A. Phillips, Glen Burnie, Student, PCPS, 1974
George J. Poltilove, Baltimore, Retired Pharmacist
John Robert Ricci, Laurel, Director of Pharmacy Services, ASCO
Harley G. Sanders, Oakland, Griggs Pharmacy
William P. Tyler, Jr., Rockville, Pledge, NIH

The following is a list of the new members approved by the Board of Directors of the Maryland Pharmaceutical Association on July 16, 1974.

Morris J. Alliker, Baltimore City Hospital, Baltimore
Philip H. Cogan, Laurel, Executive Office of the President for Drug Abuse Prevention
Benjamin S. Cohen, Baltimore, Security Pharmacy
William C. Chatkin, Hagerstown, Chatkin Pharmacy
Joseph L. Kern, Baltimore, Retired Pharmacist
Joseph Lerner, Baltimore, Read's Drug Stores
Betty Gitomer Luber, Washington, D.C., Retired Pharmacist
Raymond Smith, Phoenix, Maryland, Burroughs Wellcome Co.
Irvin Silen, Baltimore, Libby's Rexall
Alan Stoff, Baltimore, Read's Drug Stores
Henry R. Stromberger, Baltimore, Johns Hopkins Hospital
Dr. John P. Urlock, Jr., Baltimore, Retired Pharmacist and Physician
Olga Matelis Urlock, Baltimore, Retired Pharmacist
John Vakoutis, Baltimore, University of Maryland Hospital

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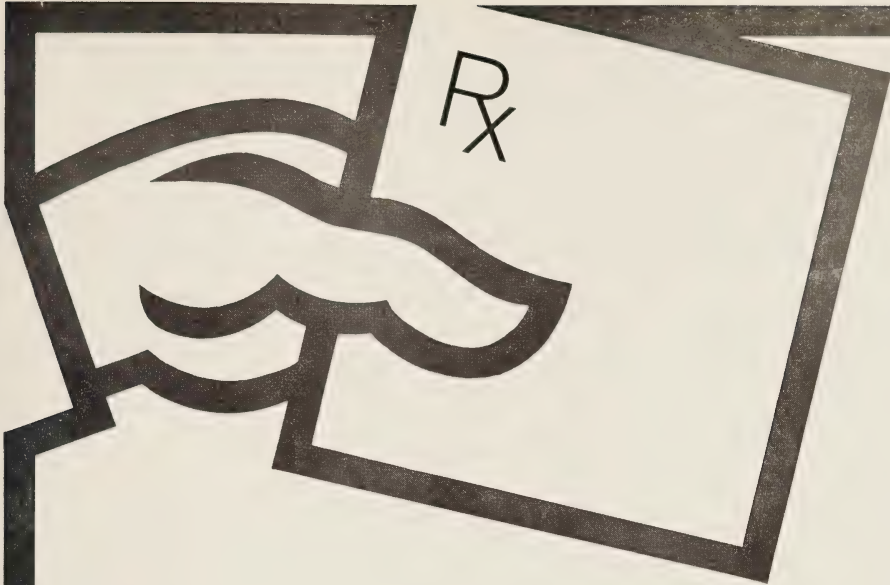
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Hospital Pharmacy Section

Maryland Society of Hospital Pharmacists

The Maryland Society of Hospital Pharmacists met at the Johns Hopkins Hospital on September 12, 1974. The guest speaker was Robert Rubin, Ph.D. of the Department of Environmental Medicine, Hygiene and Public Health, Johns Hopkins Hospital. Dr. Rubin spoke on "Medical Aspects of Plastic Disease." He pointed out the potential dangers of using plastic containers to administer blood products and intravenous solutions because of possible interactions between drugs and plasticizing agents used in the manufacture of these containers.

Reports were presented by committee chairmen and Patrick Birmingham reported on the group purchasing plan developed in cooperation with the Maryland Hospital Association. The Pharmaceutical Selection Committee will begin reviewing antibiotics for group purchasing by member hospitals. Past President Thomas Patrick received the Squibb Award from representative Ronald Booze.

Additional Society meetings have been scheduled for October at Arundel General Hospital, November at the USPHS Hospital, December at the Good Samaritan Hospital and in January at University Hospital. The January meeting will be a joint meeting with the Baltimore Metropolitan Pharmaceutical Association and will feature a tour of pharmacy facilities in the new North wing of University Hospital.

MSHP President Vincent de Paul Burkhart has announced the following committee appointments for 1974-1975. Bylaws Revision Committee: Normand A. Pelissier, Chairman; Allan Jaskulski, Frank Kratz. Continuing Education Committee: Peter P. Lamy, Ph.D., Chairman; Jerry John, Sam Lichter, Bill Grove. Peer Review Committee: Peter P. Lamy, Ph.D., Chairman; Berry Means, Tom Brenner, John Jordan; Annual Seminar Committee: Arthur N. Riley, Chairman; Patrick H. Birmingham, Program; Kent Johnson, Site Selection and Accommodations; Dolores Ichniowski, Publicity and Awards.

Other committee appointments included: Financial Committee: June Shaw, Chairwoman; Ron Smith. Legislative Committee: Robert E. Snyder, Chairman; Jeffery Hahn, Richard E. Rumrill. Monthly Program: David Chason, Chairman; Membership Committee: Harry Hamet, Chairman; Florence Raimondi; Pamela Lindsay, Student Recruitment; Professional Practices Committee: Henry J. Derewicz, Chairman; Patrick Birmingham, Arthur N. Riley, Sam Lichter, Robert E. Snyder; MSHP Liaison to Professional Practices Committee of the MHA. Henry J. Derewicz, Chairman. Nominating Committee: Mary W. Connelly, Chairwoman; Normand A. Pelissier, Lawrence Hogue. Partite Committee Representative, Patrick H. Birmingham; Newsletter Editor, Philip B. Miller.

The American Society of Hospital Pharmacists is conducting a fall membership recruitment program and will offer a \$10 cash rebate to affiliated state chapters for

University of Maryland School of Pharmacy

Continuing Education Programs

CARDIOVASCULAR PHARMACOLOGY: A series of eight Tuesday evening lectures beginning October 15 and ending December 3, 1974. Sessions are held in Room 201 of the Allied Health Professions Building, 32 S. Greene Street, Baltimore, from 7:30 p.m. to 9:30 p.m.

COMPREHENSIVE REVIEW OF NEW DRUG PRODUCTS: This program will be repeated on three Sundays—November 3, 1974, Holiday Inn, Route 50, Easton, Maryland; January 12, 1975, Center for Adult Education, College Park, Maryland; and April 20, 1975, Holiday Inn, Cumberland, Maryland. Sessions are from 1:00 to 5:00 p.m.

NON-PRESCRIPTION (O.T.C.) DRUGS AND SELF MEDICATION: A series of eight Tuesday evening lectures combined with independent cassette tape study beginning February 4, 1975 and ending March 25, 1975. Sessions will be held in Room 201 of the Allied Health Professions Building, 32 S. Greene Street, Baltimore, from 1:30 p.m. to 9:30 p.m.

THIRD PARTY PROGRAMS AND HEALTH CARE: This program, co-sponsored by the American College of Apothecaries, will be held on February 16, 1975 at the Friendship International Hotel, Baltimore-Washington International Airport, Baltimore, Maryland.

PATIENT MEDICATION RECORD SYSTEMS: WHERE DO YOU STAND?: This program will be the basis of the 1975 Robert L. Swain Pharmacy Seminar which will be co-sponsored by the Maryland Pharmaceutical Association and the University of Maryland School of Pharmacy. The date is March 20, 1975 with other details to be determined.

CURRENT CONCEPTS AND APPLICATIONS IN BIOPHARMACEUTICS AND PHARMACOKINETICS: A series of eight lectures beginning April 9, 1975 and ending May 28, 1975. Sessions will be held from 7:30 p.m. to 9:30 p.m. in Room 201, Allied Health Professions Building, Baltimore, Maryland.

CASSETTE TAPE LECTURE COURSES: For more information on the cassette tape lecture courses offered by the School of Pharmacy, and for information on any of the above courses, please contact Mr. Henry G. Seidman, Director, Division of Continuing Education, University of Maryland School of Pharmacy, 636 West Lombard Street, Baltimore, Maryland 21201.

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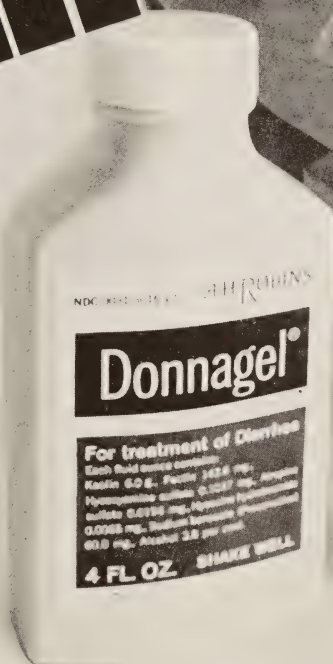
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P.S.R.O. Advisory Groups*

Guidelines For Selection of Members Functions And Responsibilities

1500 GENERAL

The PSRO amendment to the Social Security Act requires that each Statewide Professional Standards Review Council, or Professional Standards Review Organization in States without Statewide Councils, shall be advised and assisted by an Advisory Group. The Statewide Council or the PSRO selects and appoints the members according to instructions of the Secretary of DHEW. The Advisory Group provides an ongoing and formal mechanism for the input of non-physician health care practitioners and representatives of hospitals and other health care facilities into the Professional Standards Review program.

This Chapter addresses those Advisory Groups required by Section 1162(e)(1) of the Act.

1502 MEMBERSHIP OF THE ADVISORY GROUP

1502.20 Composition and Qualifications

The membership of an Advisory Group to either a Statewide Council or a PSRO shall include three categories of individuals: (1) representatives of health care practitioners other than physicians; (2) representatives of hospitals; and (3) representatives of other health care facilities which receive payment under Titles 18, 19 and 5 of the Social Security Act. There shall be a minimum of seven members and a maximum of eleven; however, Statewide Councils and PSROs are strongly urged to establish Advisory Groups of the maximum size.

The primary consideration in the composition of the Advisory Group is the appropriate collective representation of practitioners, hospitals, and other facilities which reflect the current review activities of the Professional Standards Review Program.

Each Advisory Group member shall be a resident of and practice his or her profession in the State; and, in the case of a PSRO Advisory Group, the member shall work in the PSRO area. Members shall meet any applicable State requirements for practice of their profession.

1502.21 Representatives of Health Care Practitioners

At least one-half of the Advisory Group shall be representatives of health care practitioners, other than physicians. Non-physician health care practitioners are those health professionals which (a) do not hold a Doctor of Medicine or Doctor of Osteopathy degree, (b) are qualified by education, experience and/or licensure to practice their profession, and (c) are involved in the de-

livery of direct patient care services which are directly or indirectly reimbursed by the Medicare, Medicaid or Maternal and Child Health programs.

In determining the type of representation for this category of Advisory Group membership, emphasis shall be placed on including those practitioners who provide the greatest amount of service, or whose services represent special review problems in the programs of Title 18, 19, and 5 of the Social Security Act. Representation of nurses, pharmacists, and dentists is encouraged.

To the extent feasible, each of these persons shall have been recommended by an organization in the State or PSRO area representing the respective group of health care practitioners, according to procedures discussed in Section 1502.6. Persons recommended shall be actively engaged in providing health care services in the State or in the respective PSRO area. The type of practice of the members selected for the Advisory Group shall be consistent with the services currently being reviewed under the Program.

1502.40 Term of Appointment

Advisory Group members shall be appointed for short membership terms, not to exceed two years, with opportunity for renewal once. The intent of the short term is to allow for frequent reevaluation of the kind of representation on the Advisory Group in relation to the current nature of PSRO activity and for the opportunity to rotate membership among various organizations. To assure some continuity, however, no more than one half of the membership shall be new in any year subsequent to the first year.

1502.60 Procedures for Nominating and Appointing Advisory Group Members

1502.61 Advisory Group Nominating Committee

Each Statewide Council or each PSRO in States without a Statewide Council shall have a standing committee, called the Advisory Group Nominating Committee, charged with the responsibility of recommending to the Statewide Council, or Governing Body of the PSRO, the membership of the Advisory Group. The advisory Group Nominating Committee shall be composed of not less than 5 persons.

1502.63 Minimum Requirements for Selecting Advisory Group Members

The Nominating Committee shall solicit and review recommendations, and suggest members for appointment to the Advisory Group. The final decision regarding Ad-

* Abstracted from P.S.R.O. (Professional Standards Review Organization) Program Manual, Chapter 15, Department of Health, Education and Welfare, Issued July 11, 1974.

visory Group composition shall rest with the full Council or PSRO Governing Body.

1502.80 Establishment of the Advisory Group

The Statewide Council or PSRO shall submit a plan within three months of the signing of an agreement with DHEW for the early selection of an Advisory Group.

1504 MINIMUM ORGANIZATIONAL REQUIREMENTS FOR ADVISORY GROUPS

1504.10 Organizational Structure and Operating Procedures

Each Advisory Group shall determine its own organizational structure and develop written operating procedures consistent with these guidelines and subject to Statewide Council or PSRO approval. The Advisory Group shall elect its own chairperson.

1504.20 Meetings of the Advisory Group

The Advisory Group shall meet as a whole at least quarterly.

1506 DUTIES AND FUNCTIONS OF ADVISORY GROUPS

1506.20 General

PSRO legislation gives direction to Advisory Group function in broad terms, i.e. the Statewide Council or PSRO "shall be advised and assisted in carrying out its functions by an Advisory Group."

1506.40 Advisory Group to a Statewide Council

1506.41 Support of Non-Physician Health Practitioner Care Activities in PSROs

The Statewide Council shall seek the assistance of the Advisory Group in assuring maximum effective non-physician health practitioner involvement in each PSRO in its State as these PSROs will not have their own legislatively required Advisory Group. The Statewide Council shall seek recommendations from the Advisory Group for the involvement of non-physician health care practitioners in (1) the establishment or adaptation of norms, criteria, and standards for non-physician health care, (2) the development of review mechanisms, and (3) the review of such care.

F.I.P. Congress To Be Held In Ireland

The 35th International Congress of Pharmaceutical Sciences will be held in Dublin, Ireland, during the period September 1-5, 1975. The theme of the congress is "Basis for the Quality Control of Medicines." Excursions are planned for accompanying persons to places of cultural and general interest. For more information write to: The Congress Secretary, 35th International Congress of Pharmaceutical Sciences, 44 Northumberland Road, Ballsbridge, Dublin 4, Ireland.

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now.
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Institutional Pharmacy Section

Peter P. Lamy, Ph.D., Editor

Diagnostic Tests and The Geriatric Patient

by

BERRY J. MEANS and PETER P. LAMY, Ph.D.*

Introduction

Diagnosis in the geriatric patient is difficult at best. Histories are difficult to obtain due to the older person's lapse of memory, non-specific complaints, and a tendency to reminisce. The geriatric patient is also likely to be suffering from multiple pathology (2, 3). One author states that in diagnosing the geriatric patient, if at least three conditions were not found, some were missed (5).

Often a geriatric patient's condition is summarily attributed to "old age" or "senility" (1, 2). In a survey of the medical records and autopsy findings of 300 patients of an Exter, England hospital, Wright (1) examined the accuracy of diagnosis, and suggested that only 27 percent of these patients had been diagnosed correctly. Significantly, 40 percent of the patients had no definitive diagnosis at all (i.e., "condition due to old age"—"patient is senile").

In Britain, there has been interest in early diagnosis and mass screening of geriatric patients (2, 6). This screening may be in the form of a Health Visitor (similar to a Public Health Nurse in the United States) who interviews the patient in the home (2). The Health Visitor observes the patient for obvious problems such as swollen ankles and edema suggestive of congestive heart failure, and may take a small blood sample for laboratory analysis.

Gowan (6) describes a similar effort in Scotland.

Physiological Changes With Age

Aging is a dynamic process proceeding to varying degrees in all persons. Generally, senescence is best visualized as quantitative rather than qualitative changes (7). It has been shown that as a person ages, many of the highly specialized cells in organs such as the brain, kidney, and muscles are reduced in number while at the same time slightly increasing in volume and intracellular constituents (8). These specialized cells have little or no reproductive capacity. The limitations on the organ due to that loss may be offset by the more complete utilization of a greater number of the surviving cells (8).

* Mr. Means is a Resident of the Johns Hopkins Hospital, Pharmacy Department and a Graduate Student in the Institutional Pharmacy Programs, University of Maryland. Dr. Lamy is Professor of Pharmacy and Director, Institutional Pharmacy Programs, School of Pharmacy/University Hospital, University of Maryland, Baltimore, Maryland 21201.

This article is reprinted courtesy of the Journal of the American Geriatrics Society (June, 1974, Vol. 22, No. 6) and with permission of the authors.

Example:

Organ A has 100 cells at mid-maturity

20 cells are required to function at rest	20% of the cells are utilized
50 cells are required at moderate demand	50% of the cells are utilized
100 cells are required under extreme stress	100% of the cells are utilized

Organ A has 70 cells in old age

20 cells are required to function at rest	29% of the cells are utilized
50 cells are required at moderate demand	71% of the cells are utilized
100 cells are required under extreme stress	100% of the cells are utilized, but there are only 70 cells available. This represents a diminished reserve capacity in the organ function of older persons.

Some organs do not seem to be necessary for continuation of life. The thymus, ovaries, and umbilical artery are examples of this type of organ (9). These organs have their own life cycle or "biological clock" and may be functioning slightly or not at all in the older person (9).

Older people can suffer from excessive frequency of urination

In addition to these quantitative changes, there are also certain qualitative changes. Some cells tend to increase in volume due to the addition of calcium, lipids, lipoproteins, cholesterol and other material. Cell growth tends to slow due to increased tissue breakdown in old age, but more likely is a reduction in anabolic response so that normal catabolism is not offset (8).

Tissue Changes

The tissue changes that occur with age can be summarized as:

1. a decrease in the aggregate cell population of the metabolizing cell mass
2. a compensatory increase in volume of cells as their numbers decrease
3. a change in some degree in the functional capacities proportional to the cell changes.



What does man have in common with Samson?

Neither man nor the gorilla can synthesize vitamin C. Interestingly, the slow loris, a primate much further down the evolutionary scale, can convert L-1,4-gulonolactone to ascorbic acid in its liver and presumably does not require an exogenous source of ascorbic acid.

Because man can neither synthesize vitamin C nor store most of the water soluble vitamins, these nutrients must be replenished continuously in order to

maintain normal tissue levels.

Generally, this is accomplished in his daily diet. But under conditions of illness, stress, in convalescence or following surgery, vitamin stores may be depleted or metabolic demands increased.

In such cases, Surbex-T may be indicated. Surbex-T restores the water soluble vitamins with each tablet providing 500 mg. of vitamin C plus high potency B-complex.



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Restores what the body cannot effectively store

It has been estimated that aggregate cell capacities, as a function of age, are reduced about one percent a year from the 28 to 35 year level to old age (10).

These tissue changes effect changes in different organ systems. The skin becomes less elastic, yet more wrinkled and dry. There is more capillary fragility in the older patient and there is considerable less perspiration (7). The skeleton bends in the back, the hip and the knee joints. This curvature of the spine, along with a decrease in thickness of the cartilage between spinal vertebrae, causes a reduction in height (7, 11). It becomes increasingly difficult for older persons to have rapid voluntary movements.

As one gets older there is a decline in cardiac output accompanied by an increase in resistance to flow due to hardening of arteries (7, 17). The total capacity of the lung decreases causing a decrease in the vital capacity (12), due to weakening of the intercostal muscles, a reduction in expandability of the lungs brought about by changes in the elastic fibers of the small lung tubes, and an increased thickening of the membranes of tissues of the alveoli (7).

In the geriatric patient there is some evidence that there is diminished sensitivity to skin test antigens.

There is thought to be reduced motility of the gastrointestinal tract and decreased acid secretions in the stomach. This, as well as reduced peristalsis, may cause the constipation so common in older persons (7).

Older people can suffer from excessive frequency of urination. In males this can be from prostatic enlargement (7). The kidney of the elderly is less efficient in concentrating the urine (12). The ability of older persons to maintain a constant body temperature is reduced. The normal temperature (rectally) may be as low as 70 degrees F., due in part to a reduction in the rate of metabolism (7, 12).

In addition to tissue changes, there are certain changes in the compartments of the body. Body weight does not consistently decrease. In fact, unless there is intervening disease, there is no substantial weight loss until very old age (13). Total body water consists of both intracellular and extracellular fractions. In the adult, 70 kg. man, this intracellular and extracellular water are divided equally between phases. As one ages, the body tends to loose intracellular water in approximate proportion to the loss in the total number of functioning cells (10). Body fat increases with age in proportion to the amount of intracellular water that the body looses (10).

Diagnostic Testing In The Geriatric Patient

There is not yet sufficient information available concerning the use of drugs, specifically diagnostic tests, in the geriatric patient. This may be due in part to a lack of demand for this information as evidenced by the passive attitudes toward the older patient mentioned earlier

(1). Studies on the older patient are not easy to conduct because it is difficult to obtain sizable populations of "healthy" older people to form a basis for statistics (14) and it is difficult to separate the effects of aging from the effects of pathology and disease (15). The best studies are the longitudinal type studies that make repeated measurements of the same person over a period of time but by necessity, these studies take a very long time (16).

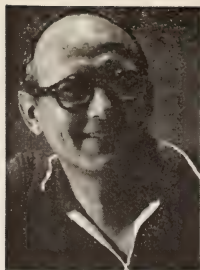
When using drugs or diagnostic agents in the geriatric patient, one must take into consideration the altered physiological state of the patient. Margins of safety tend to be decreased in senescence (17) by multiple pathology. In older patients, there can be a wider range of responses to drugs than in the younger patient (18). For example, drugs excreted by the kidney in their active form should be administered in approximately one-half the normal dose (19).

Old tuberculin and purified protein derivative of tuberculin have been used as an aid in the diagnosis of tuberculosis. A small amount of mycobacterium tuberculosis is injected intracutaneously. The injection site is examined 48 to 72 hours later. A reaction is characterized by a zone of redness and edema. A palpable induration of 5 mm or more is usually considered a "positive." A positive reaction may indicate past or present infection with m. tuberculosis. The reaction may also be caused by allergy or hypersensitivity to tuberculin. The individuals showing positive skin tests are subject to further diagnostic tests such as x-ray and sputum examination. Active tuberculosis can only be diagnosed by isolation of the organism.

In the geriatric patient there is some evidence that there is diminished sensitivity to skin test antigens (20, 21, 22, 23). Dequer and colleagues (21) point out that the same criteria for positivity in young and old should not be used. It has been suggested that larger than usual test doses of tuberculin are sometimes required to elicit allergy in older people (20). Dequer (21) studied patients who were retested at three years. In those three years, 8.5 percent of the oldest became anergic, demonstrating that the decrease in sensitivity is real and not due to positives dying off. Woodruff and Chapman (22) however, report that not all patients show this decreased sensitivity.

Turf, *et al.* (24) studied sensitization as applied to skin test reactions and the influence of age on skin reactivity. They found the incidence of positive skin reactions to food allergens to be highest in the first decade of life and then decreasing slightly up to 50 years of age, after which there is a sharp decrease. Skin tests with histamine also show the same pattern of decrease in sensitivity. Failure to demonstrate positive reactions in older persons thus may be due to loss in skin reactivity rather than lack of specific sensitivity (24). The authors suggest histamine skin tests (1:10,000 and 1:100,000) for determining skin reactivity prior to allergy testing. Some of the more commonly used skin tests are listed in Table I.

In order to minimize false negative tests in screening older patients for tuberculosis, it may be advantageous to



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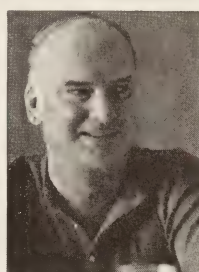
DEAN SULLIVAN



BILL HYSSONG



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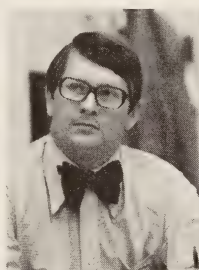
JOHN O'MALLEY



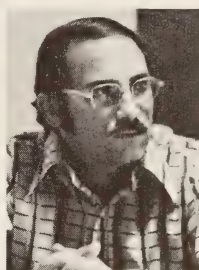
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administer the 2nd strength tuberculin P.P.D. to patients showing a negative response to the weaker test strengths. The physician should also consider the possibility of diminished skin sensitivity when performing skin tests in older patients.

Phentolamine mesylate, an alpha-adrenergic blocking agent has been used as a screening test for the diagnosis of pheochromocytoma, a tumor of the adrenal gland resulting in hypertension. After the intravenous administration of 5 mg. of the drug, a fall in blood pressure in excess of 35/25 mm Hg is indicative of a positive response. Similar positive (false positive) responses to this test can be obtained in patients with essential hypertension or other diseases associated with hypertension that may be found in the geriatric patient, such as cerebrovascular accidents (25). Patients with cerebrovascular accidents were shown to respond to phentolamine with a mean fall in blood pressure of 74/40 mm Hg (25, 26). Although phentolamine causes a drop in blood pressure by blocking catecholamines, it is believed phentolamine also causes dilation of the peripheral vascular system (25). In the normal individual, this effect is assumed to be countered by an increase in cardiac output. If counter regulatory mechanisms are inadequate or inoperative as may occur in patients with cerebrovascular accidents or other conditions—a false positive reaction may be obtained in the absence of circulating catecholamines (25). These instances of false positive tests have limited the use of phentolamine as a test for pheochromocytoma. Spergel, *et al.* (25) have proposed a modified phentolamine test for the diagnosis of pheochromocytoma. It has been shown that in patients with active pheochromocytoma during a glucose infusion the administration of phentolamine is associated with a rise in plasma insulin and a fall in the plasma glucose along with the decrease in blood pressure (25). Spergel administered the modified test to 19 patients and suggested that false positives can be distinguished from positives by observing a fall in glucose concentration greater than 18 mg./100 ml. and a rise in plasma insulin value greater than 13 micro-units/ml. along with the decrease in blood pressure.

The intravenous administration of certain contrast media for angiocardigraphy may result in striking hemodynamic alterations (27). Blood pressure may fall as much as 50 percent, returning to control level after 60 to 90 seconds. These hemodynamic effects appear to be due to the hypertonicity of these contrast media (27, 28, 29). A typical injection of iothalamate (30 ml. = 68 milliosmoles) must be diluted with water to over 230 ml. to make it iso-osmotic with plasma. It would seem that these hemodynamic effects might cause problems in the geriatric patient with decreased reserve capacities and ability to adjust fluid and electrolyte balance. Dudzinski, *et al.* (28) have examined the problem of acute renal failure following high dose excretory urography (IVP) in dehydrated patients. They report excellent results with the higher dose technique that was introduced in 1964. There had been reports, however, of renal failure secondary to contrast media. The most likely explanation is nephrotoxicity produced by an excessive volume of concentrated contrast medium (28). Previous to the high

dose technique it was customary to dehydrate the patient prior to testing. This customary dehydration was still followed as doses of contrast medium increased. The renal failure is probably due to precipitation of urinary mucoprotein in the tubules both from the dehydration itself and from the concentrated contrast medium. This precipitated protein forms aggregates and casts that obstruct the tubules.

Emergency IVP's done in the hydrated patient have been shown to be of comparable quality to those done in partially dehydrated patients (28). Since the total body water content is reduced in the geriatric patient, partial dehydration in these patients prior to an IVP would seem to be associated with a higher risk of renal failure. It is recommended that the patient be encouraged to maintain a normal fluid intake up to two hours prior to the test and a high fluid intake after the test (28).

The intravenous administration of certain contrast media may result in striking hemodynamic alterations.

One may also point to a potential hazard in conducting a barium enema examination in the geriatric patient. The cleansing of the colon prior to the test is customarily performed with an oral dose of castor oil. While this is well tolerated in younger patients, the resulting diarrhea can cause severe fluid and electrolyte disturbances in the older patient resulting in hypertension and shock (30).

Rafsky and Newman (31) conducted a study of liver function tests in the aged. They chose 50 "normal" individuals over 60 years of age and performed five liver function tests on each of the patients. The tests were: Hanger's Cephalin-cholesterol Flocculation Test, Rosenthal's sulfobromophthalein test, serum cholesterol partition, and both oral and intravenous hippuric acid tests.

In 86 percent of the subjects at least one of the tests showed evidence of liver dysfunction according to usually accepted standard values (31). Twenty-six percent of the subjects showed hepatic impairment in two of the tests, one subject (two percent) showed poor liver function in three of the tests and 26 percent had four "abnormal" test results.

Further studies on the sulfobromophthalein (BSP) test, considered by many to be the most sensitive indicator of liver function, were conducted by Thompson and Williams (32). The sulfobromophthalein test is based on the ability of the liver to remove a specific amount (usually 5 mg./kg.) of the drug from the blood stream in a given amount of time, usually 45 minutes. The amount of sulfobromophthalein remaining after the time period is determined by colorimetric or spectrophotometric techniques, the diseased liver showing a higher percent retention of the dye. The removal of sulfobromophthalein from the blood by the liver is due to two different and independent mechanisms. One process involves the storage of the dye in the cells of the liver while the other mechanism involves active secretion of the sulfobromophthalein into the bile.

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Thompson and Williams (32) studied 32 healthy subjects ranging in age from 20 to 93 years. In the patients below 50 years, no abnormality in liver function tests (sulfobromophthalein) could be detected, while the older patients showed an increased incidence of sulfobromophthalein retention even though other liver function tests remained within normal limits. They found that the livers of these older patients had a decreased capacity to store the sulfobromophthalein but that the secretory mechanism was normal even in the oldest patients. The reason for this decreased storage of sulfobromophthalein is unclear. It is more likely due to an alteration in the liver cell itself, rather than simply a decrease in the number of hepatic cells (32).

These studies raise the question as to the significance of the comparatively large percentage of abnormal results in these apparently normal, aged individuals. It is recognized that there are organ changes in the aged patient but it is also true that these changes may be perfectly compatible with normalcy for this age. This rationale would provide a situation in that abnormal results of liver function tests may be encountered in apparently healthy subjects above 50 to 60 years of age (31, 32).

Nearly 70 per cent of the known diabetics were diagnosed at 45 years of age or older.

Based on estimates by the American Diabetes Association, there are ten million potential diabetics in the United States (33). Nearly 70 percent of the known diabetics were diagnosed at 45 years of age or older, one case in five was discovered at 65 years of age or older but in only eight out of 100 cases was diabetes discovered in persons less than 25 years old. The oral glucose tolerance test, a diagnostic procedure frequently used in the geriatric patient, is another diagnostic test that may give misleading results in the older patient.

The glucose tolerance test (GTT) is performed by administering to the patient an oral dose (100 g.) of glucose and then testing the patient's blood after a period of time for glucose content. Persons who have diabetes will not be able to utilize glucose as well as normal individuals; consequently the GTT is used as a screening procedure to identify diabetics. The glucose tolerance test is 100 percent sensitive by definition. Problems of the GTT relate to its specificity. In itself, the abnormal oral glucose tolerance curve of mild diabetes is indistinguishable from the curves found in other conditions. In addition to certain drugs (such as salicylates and diuretics) and inactivity and bed rest, dietary carbohydrate restriction has been known to alter a person's ability to tolerate carbohydrate (glucose) (33, 34). Selzer (35) points out the importance of a high carbohydrate prep diet (80 g. protein, 300 g. carbohydrate, 3000 calories) for three days prior to performing the GTT. This point is illustrated by a study of 21 non-diabetic males, over 50 years of age (mean 65)

who were each given a GTT both before and after the standard three day, high carbohydrate prep diet (33). The results showed that before the prep diet, the non-diabetics tended to have a "non-diagnostic low plateau" without a hyperglycemic peak. After the three day prep diet, most of the non-diabetic blood sugar curves had normalized with the two hour value below 100 mg. %. On the other hand, the prep diet had very little effect on the five mild diabetic subjects.

In addition to the previously mentioned factors, age itself is a factor which can influence the outcome of the oral glucose tolerance test. With an increase in age, a person's capacity to metabolize carbohydrate decreases; perhaps due to less active muscle and other tissues involved in carbohydrate metabolism. The glucose curve of 124 healthy subjects 11-70 years of age was found to rise with increasing age. The curves, however, remained within normal range up to 70 years of age (33).

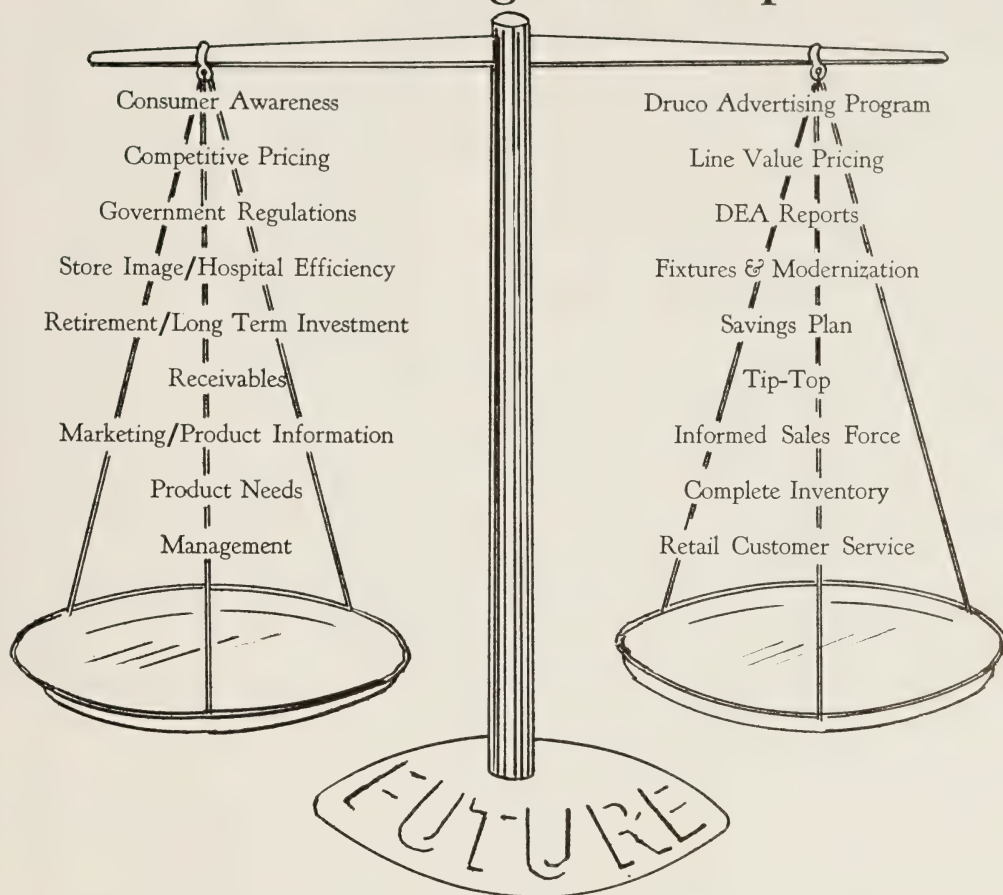
One can well imagine how one or more of these factors could influence the outcome of a GTT performed on an elderly person. In order to increase the specificity of the oral glucose tolerance test, the American Diabetes Association has suggested standardization of the testing procedure. Since a diagnosis of diabetes based on an abnormal glucose tolerance curve should only be made after the other possible causes of abnormal glucose tolerance have been ruled out, it makes good sense from an economic and practical standpoint to conduct glucose tolerance tests according to a standardized procedure. The Committee on Statistics of the American Diabetes Association has set forth certain recommendations for a standard glucose tolerance test (33). Some of the recommendations are as follows:

- (1) a dietary intake of at least 150 g. of carbohydrate for three days prior to the test, providing the patient has previously been on a normal diet
- (2) a delay of at least two weeks after an acute illness
- (3) discontinuance of drugs believed to influence glucose tolerance, at least three days prior to testing
- (4) that the test be performed only on ambulatory patients.

In addition to the various physiological problems that may be encountered in performing various diagnostic tests in the geriatric patient, older patients may have adverse psychological effects to testing and treatment (30). Dr. Theodore Reiff, former Medical Director, Levindale Geriatric Hospital, Baltimore, Maryland, points out that the confusion and disorientation that occurs during testing in strange surroundings can be quite distressing.

The evaluation of the geriatric patient is a somewhat different proposition than is diagnostic testing in the average patient. There can be many potential problems and inconsistencies in testing older patients. Until such time as more and better data is available concerning diag-

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nostic tests in the geriatric patient, one must evaluate each test as to its specific mechanism of action in relation to the altered physiological state of the older patient.

TABLE I
UNADJ. ADJ. DERMAL REACTIVITY INDICATORS

Test Substance	Dose	Route	Object of Test
Diphtheria Toxin, Diagnostic	0.1 ml.	Intradermal	determine immunity to diphtheria
Coccidioidin	0.1 ml.	Intradermal	aid in diagnosis of coccidioidomycosis
Histoplasmin	0.1 ml.	Intradermal	aid in the diagnosis of histoplasmosis
Lymphogranuloma venereum antigen	0.05-0.1 ml.	Intracutaneous	aid in the diagnosis of lymphogranuloma
Mumps skin test antigen	0.1 ml.	Intradermal	demonstrate an immunity to mumps
Scarlet Fever streptococcus toxin	0.1 ml.	Intracutaneous	test susceptibility to Scarlet Fever
Trichinella Extract	0.5-0.1 ml.	Intracutaneous	aid in the diagnosis of trichinosis
Tuberculin, Old	0.1 ml., 1:1000 or 0.1 ml., 1:10,000 followed by 0.1 ml., 1:1000 & 0.1 ml., 1:100	Intracutaneous	aid in the diagnosis of tuberculosis
Tuberculin, Purified Protein Derivative	0.1 ml. (.2 mcg), intermediate strength or 0.1 ml. (.02 mcg), 1st strength followed by 0.1 ml. (.2 mcg) intermediate strength or 0.1 ml. (5 mcg) 2nd strength	Intracutaneous	aid in the diagnosis of tuberculosis

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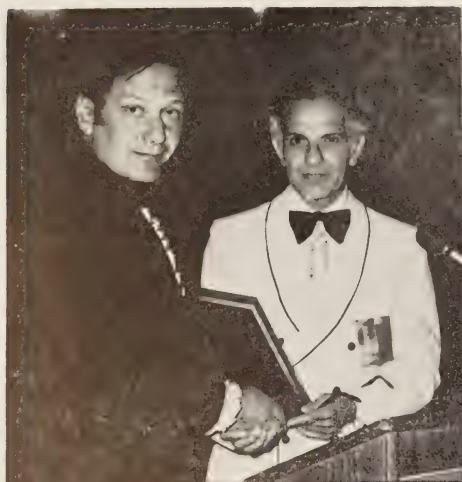
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MPhA Convention Highlights . . .



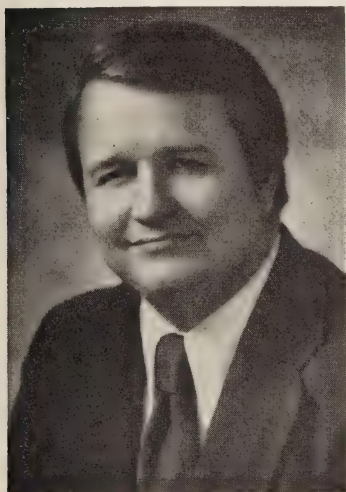
Top left: Anthony G. Padussis (right) receives Past President's Plaque from 1974-75 President Paul Freiman. Top right: Herman J. Bloom (left) official MPhA photographer and President of Paramount Photo presents happy recipient of the first MPhA "Citation for Service" as 1974-75 Supporter and Dedicated Worker for Pharmacy from 1973-74 President Padussis. Middle left: Mark Levi presents a contribution on behalf of A.Z.O. Fraternity to PHARMPAC-The Political Action Com-

mittee—to its Treasurer, Charles E. Spiegelmir. Middle right: Incoming President Paul Freiman receives gavel from Toastmaster Henry G. Seidman. Bottom left: Mr. Padussis awards "Citation of Service" to Henry G. Seidman for his term as MPhA Speaker 1972-73. Bottom right: Ben Friedman receives "Citation of Service" as MPhA Speaker for 1973-74 from Mr Padussis.



Left: Mrs. Anthony G. (Arlene) Padussis is recipient of first "Pharmacist's Mate Award from Geigy representative William F. Brown (left) with proud husband and outgoing president on right.

Right: James W. Truitt, Jr. (left) received the 1974 Maryland "Bowl of Hygeia" Award for Community Service in Pharmacy from A. H. Robbins' representative Russell Barnes



Convention Speaker MPhA Annual Banquet

Robert H. Henry, Director of Professional Affairs, United States Pharmacopoeia—"The USP: Give it to the Elephants."



Top photo: LAMPA guest speaker Mr. Russell Howell of the International Meditation Society who presented talk on Transcendental Meditation is flanked by LAMPA President Mrs. Arlene Padussis and Communications Secretary, Mrs. Ann Crane. Lower photo: LAMPA members at the Convention.



TAMPA Athletic Awards



Photos By Paramount Photo Service

Top left: Tony Polusis (right) with golf trophy from Frank Watkins, Awards Committee Chairman. Top right: Judy Bloom and Ron Lubman (left) receive tennis awards from Frank Watkins. Center left: Tennis winner Abe Bloom (left) and Mr. Watkins. Center-center: Another ten-

nis "pro", Nate Gruz. Center right: Tennis winners Nancy Lubman (left) and Ursula Gruz. Bottom: Golfers Don Young (left) and Jim Truitt with Frank Watkins.

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TAMPA "Night at the Races" . . .



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TAMPA "Night At The Races" was moderated by Frank Watkins, top right, while other TAMPA members Kenneth Mills, Joseph Hugg and Al Turner, lower left, manned registration desk. Other photos include "Night At The Races" activities.

1974 EDI Supplement Released

The "1974 Supplement to Evaluations of Drug Interactions" published by the American Pharmaceutical Association is now available. Containing monographs on 28 additional drug-drug interactions, this supplement to EDI-1973 was prepared by APhA with the assistance of the American Dental Association, the American Medical Association, the American Society of Hospital Pharmacists, the Food and Drug Administration, and the National Library of Medicine.

The multidisciplinary approach utilized in the development of material in EDI is designed to ensure that the material is applicable to the drug interaction information needs of all health-care professionals. The 1974 supplement also contains a cumulative index to both EDI-1973 and the 1974 supplement. Both EDI-1973 and the 1974 supplement are available from the Order Desk, American Pharmaceutical Association, 2215 Constitution Ave., N.W., Washington, D.C. 20037. The cost is \$10. and \$2. respectively. As a membership service, both books have been provided to all APhA and SAPHa members.

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LAMPA News

Convention Highlights — 1974

by Ann Crane

Rain drops kept falling on our heads—and so they did—but in between, we enjoyed all our planned activities.

Monday, Longwood Gardens Tour

This was kind of special, not only because the sun was shining for about three hours, but because we also saw Buck and Doe Run Farm, which is part of the famous King Ranch in Texas. The cattle bred there are part Black Angus and part Red Hereford. We also had a roadside look at the Lukens Steel Plant in nearby Coatsville, Pennsylvania.

On schedule, our tour bus pulled into the reception area of Longwood Gardens and we were greeted by smartly uniformed guides. The next hour and a half was spent mingling with nature's finest trees and flowers. We saw huge floating waterlilies, beautiful all-American roses, regal orchids, the desert house, a tropical rain forest display, the bonsai collection, espaliered fruit, and ferns—ad infinitum.

In the economic display area (plants that have value in commerce) we saw a camphor tree, foxglove plant and a cortisone yam. Several exhibits showed how to make a small backyard area pretty and useful. The fountains, waterfalls, chimes tower, open air theatre, rock garden, vegetable and herb garden—we saw them all. Our guide told us we had walked two miles. A short visit to the modern reception center allowed us to purchase little mementos of our tour. Many more hours could have been spent inspecting the various gardens and conservatories, but like a summer romance—our tour ended and now we have fond memories of Longwood.

Tuesday, Annual Meeting and Village Tour

Arlene Padussis, our President, called our 21st Annual Convention Meeting to order with about 35 members and guests present. All the annual reports reflected a healthy and stable organization. We were very pleased to accept five new members: Mrs. John J. Ayd (Connie), Mrs. Douglas Kadan (Carole), Mrs. Henry G. Seidman (Freda), Mrs. E. Allan Turner (Diana), and Mrs. Rudy Winternitz (Connie).

Everyone received a ceramic spoon rest with a set of wooden spoons, donated by Calvert Drug Company, a "Sampler" from the Whitman Candy Company, as well as a scarf and hair brush, donated by our President. Since we were all loaded with prizes and gifts, we allowed time for the "goodies" to be deposited and any rain gear available, picked up. Yes, it was raining on Tuesday.

We might say that our Hopewell Village visit was rained out. Monsoon conditions prevailed and while a few braved the elements and visited the various sites, we could

not honestly say we saw much. We did receive a brochure which tells about the restored iron making village and its historical significance.

At St. Peter's Village we explored craft shops, boutiques, a general store, the hotel, art gallery, and French Creek. Our group, all avid browsers and knowledgeable buyers, took over the village for a couple of hours. Pretty soon, it seemed we had all found that "something special" that St. Peter's Village had: freshly made peanut butter, a half-basket for the door, a special stamp from the tiny post office, or miniature cow bells. Those that lunched at the hotel report a charming Victorian atmosphere, with good food. Wet feet, damp hair and clutching our little treasures, everyone boarded the bus smiling—they knew the bus had no leaking roof! All 45 that went on the tour deserve "the rain bonnet award" for being such good company.

Wednesday, Transcendental Meditation

In the morning, LAMPA had not planned any organized activities. However, we heard some ladies went shopping at the large shopping mall nearby and got nice buys; some went to the china factory in the area and purchased dishes; others went to the Historical Society in West Chester and lucked into a personally conducted tour. (The Society usually doesn't open until the afternoon). The more active, golfed, swam or were on the tennis courts.

Mr. Russell Howell of the International Meditation Society was our guest speaker in the afternoon. He delivered an introductory lecture on Transcendental Meditation. Colored slides were used in explaining the scientific research that has been done on TM. It was a popular and timely presentation and very well attended and received. We are grateful to Mrs. Bea Friedman, our Recording Secretary, for suggesting this program to us.

LAMPA Officers and Board of Trustees for 1974-1975 are:

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TAMPA News

TAMPA members met on June 24, 1974 at the Downingtown Inn in Downingtown, Pa. President Abe Bloom commended the men present for all their efforts in staffing the reception desk, operating the TAMPA Night at the Races and for other courtesies extended to those attending the Convention.

The Nominating Committee proposed the following slate for the 1974-1975 year:

Honorary President—C. Wilson Spilker

President—John H. Fagan

First Vice President—E. Allan Turner

Second Vice President—William R. Kolb, Jr.

Third Vice President—Wayne C. Edwards, Jr.

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John A. Crozier	Kenneth L. Mills
J. William Gehring	William L. Nelson
Joseph J. Hugg	Louis M. Rockman

After calling for nominations from the floor, the slate was unanimously approved as presented.

The Traveler's Auxiliary of the Maryland Pharmaceutical Association held its Annual Crab Feast on August 8 at the home of Mr. and Mrs. Donald Brown. The delightful surroundings and excellent food catered by Dockside provided a good time for the 82 in attendance.

A.Z.O. News

The following is a list of committees appointed by Directorum Alan Stoff for the 1974-1975 Alpha Zeta Omega Fraternity year:

Professional Affairs Committee: James Kessler, Chairman; Alan Ginsberg, Leslie Benson

Undergraduate Committee: Henry Leikach, Chairman

Budget Committee: Mark Levi, Carroll Minkove, Dennis Klein

Kappa Bulletin: Henry Leikach, Co-editor; Kelvin Levitt, Co-editor

Social Committee: Dennis Klein, Chairman; Henry Leikach

American Express Committee: Jerry Cohen, Chairman

Brotherhood Committee: Henry Seidman, P.S.D.; Irvin Bergofsky

A meeting was held on September 22 at the Suburban House in Pikesville with a special program to start the new year.

Baltimore Metropolitan Pharmaceutical Association

The September meeting of the Baltimore Metropolitan Pharmaceutical Association was held at Towson Plaza Gardens. A panel presentation on "How Technicians Are Utilized in Pharmacy Today" demonstrated a wide range of opinions on what a technician is and what his duties should be. Panelists included Ronald A. Sanford, Manager of Pharmacy Systems, Read's Drug Stores; Norman J. Levin, Field's Pharmacy; Victor H. Morgenroth, Jr., Voshell's Pharmacies; and Vincent de Paul Burkhardt, Assistant Director for Patient Care Services, Pharmacy Department, University of Maryland Hospital.

During the business session which followed, President Melvin Rubin reviewed third-party program developments. The possibility exists for an increase in the fee for Medical Care prescriptions. Dave Serpik presented the Program Committee report. Election of officers and a legislative report will be on the agenda at the November 21 meeting to be held at Quality Court Motel in Pikesville. Charles Spigelmire reported for the Public Relations Committee. Mr. Spigelmire noted that the fifteenth anniversary of his broadcasting "Your Best Neighbor" will take place on November 22. Ronald A. Lubman presented the Banquet and Convention Committee report. The Hawaii trip is nearly sold out with 390 people signed up for the two trips. The Annual Installation Banquet will be held on February 9 at the Blue Crest North. A reward fund has been proposed for information leading to the arrest and conviction of burglars or hold-up men where a BMPA member is involved. It is hoped that the MPhA would provide matching funds.

Henry G. Seidman outlined the continuing education programs of the University of Maryland School of Pharmacy scheduled for this year. Albert Lichtman reported on problems with reimbursement policies of Maryland Medical Assistance. The Association will attempt to clarify this matter.

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Nathan I. Gruz, Editor
Maryland Pharmacist
680 West Lombard Street
Baltimore, Maryland 21201

Washington Spotlight For Pharmacists

Red-Tape Cut In Medicaid Payments

Recent action by the federal government hopefully will cut the long delays in Medicaid reimbursements experienced by many pharmacists.

The government has announced it will pay 90 percent of the cost involved in establishing a federally approved computerized claims processing system within participating states. In addition, the government has agreed to pay 75 percent of the operating costs for claims programs previously approved by Health, Education and Welfare.

At this time only Ohio and New Hampshire are participating in the newly approved system. However, HEW officials say 23 other states are seriously studying the program.

Obituaries . . .

S. Roland Warfield

S. Roland Warfield, 87, retired Baltimore pharmacist who graduated in 1917 from the University of Maryland School of Pharmacy, died at his home in Capistrano Beach, California on August 11.

Edwin Whittemore

Edwin Whittemore, 77, who served for many years as pharmacist at the Sydenham Hospital, now Montebello State Hospital, and several community pharmacies in Baltimore, died on August 20. He was a member of the Maryland Pharmaceutical Association.

Lawrence M. Wright

Lawrence M. Wright, 74, a 1923 graduate of the University of Maryland School of Pharmacy, died in Florida on August 27.

Joseph A. Senger

Joseph A. Senger, 67, died on September 6. He graduated from the University of Maryland School of Pharmacy in 1929. Before his retirement in 1967, he had been a representative with Eli Lilly and Co. for 26 years.

Leonard E. Kandel

Leonard E. Kandel, a Maryland pharmacist, died on July 31, 1974.

NWDA 1973 Operating Survey Is Published

Net profit realized by National Wholesale Druggists' Association full-line and specialty pharmaceutical wholesalers, in the aggregate, dipped below 1 per cent in 1973. After-tax profit was 0.96 per cent compared to 1.1 per cent in 1972. Gross profit was also off significantly, from 13.53 per cent in 1972 to 13.26 per cent last year; and net profit as a per cent of net worth was 7.71 per cent in 1973 compared with 9.13 per cent a year earlier.

Despite these adverse trends, however, improvements in several performance measurements were made. Total operating expense as a per cent of sales was 11.44 per cent compared with 11.47 per cent a year ago, and handling costs per invoice line were down to 74 cents from 85 cents in 1972. Average line extension rose from \$7.79 in 1972 to \$8.60, and inventory turnover was up from 6.48 times to 6.57. Days outstanding for receivables was cut from 39.71 to 39.31.

NWDA President R. Jackson Martin recaps as follows: "On balance, then, it becomes increasingly apparent that, as profit from the sale of merchandise dwindles and operating efficiency is maximized, wholesalers must, more and more, make the many services they have to offer pay."

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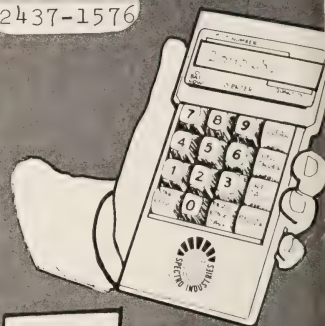
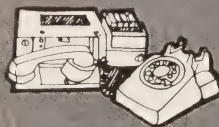
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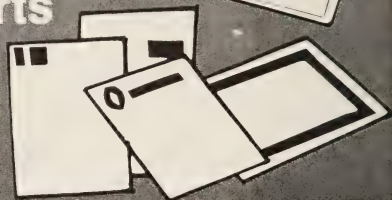
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the maryland pharmacist

OCTOBER
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Pediatric Drug Dosage

by David M. Arrington, M.S., and Peter P. Lamy, Ph.D.

U.S.P. Drug Product Problems Report

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Warnings: Serious, occasionally fatal, anaphylactoid reactions have been reported. Some patients with penicillin hypersensitivity have had severe reactions to a cephalosporin; inquire about penicillin, cephalosporin, or other allergies before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, corticosteroids).

Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not

rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

Adverse Reactions: Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin.

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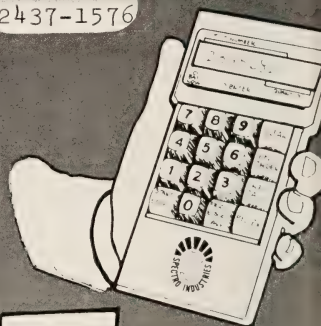
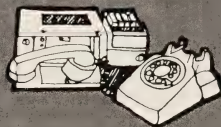
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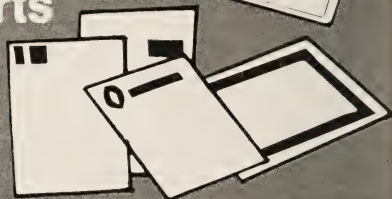
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Editorial . . .

SERVICE TO THE PUBLIC

The Maryland Pharmaceutical Association moved promptly to see that the regulatory and law enforcement agencies of the state would insist on compliance with pharmacy law by a supermarket pharmacy chain that was operating in violation of the law.

At issue was an attempt to operate an establishment licensed as a pharmacy without a pharmacist on duty at all hours that the licensed establishment was open. The Board of Pharmacy and its attorney-general have directed that both the letter and spirit of the pharmacy law be strictly adhered to in the interest of the public.

The importance of this decision cannot be overemphasized. As pointed out in a statement issued by the Employee Pharmacist Committee of the MPhA, "... this action would be detrimental to the interest of public health as a professional should be present to provide services and consultation whenever a pharmacy is open. The public has a right to these services when they expect a store to be in full operation."

Had the ruling been in favor of the pharmacy chain it is not difficult to imagine what further possibilities could exist in the way of curtailing pharmacy services during low volume periods.

Management decisions affecting pharmacies must be made not only in consideration of decreasing expenses and increasing profits but must also take into consideration the main purpose of operating a pharmacy which is service to the public.

—Normand A. Pelissier

PHARMACY CALENDAR

December 8-12—American Society of Hospital Pharmacists Midyear Clinical Meeting, Bal Harbour, Florida.

1975

January 9 (Thursday)—Joint BMPA-MSHP meeting at University Hospital, 7:30 p.m.

January 14-22—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.

January 16-24—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Group II, Princess Kaiulani Hotel, Honolulu, Hawaii.

February 9 (Sunday)—Annual Installation Banquet, Baltimore Metropolitan Pharmaceutical Association, Blue Crest North.

April 19-24—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.

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MPhA In Action

Board of Trustees Meeting

NATHAN I. GRUZ, *Executive Director*

September 5, 1974

- Received communication from Prescription Drugs, Inc. stating they are in the process of renegotiating their contracts.

Received letter of thanks from Dr. Benjamin Hodes, University of Maryland School of Pharmacy, for MPhA contribution to the Student Committee on Drug Abuse Education (SCODAE).

- Received affirmative response from Governor Mandel in answer to MPhA letter requesting veto of House Bill 1636 which would have required special auxiliary labeling by pharmacist on many classes of prescription drugs.

- Approved President's report commending Mr. Rubin for initiating MPhA Newsletter which supersedes and incorporates BMPA Newsletter. The President reported on his correspondence with local associations, his contact with the Comprehensive Health Planning Agency Director regarding the role of pharmacy, progress on the formation of the Consumer's Affairs Committee and his attendance at the APhA convention. A meeting was planned with executives of a local chain. The 1975 Swain Seminar will be devoted to the subject of patient profiles.

- The Executive Director reported on activities since the convention which included conferences and discussions on Medicaid with state officials and members; meetings on Hawaii trip, Tripartite Committee, attendance at reception at Governor's mansion in Annapolis, with state licensing and regulation of nursing home officials; attendance at a State Senator's Testimonial; meeting on pharmacy services provided at city jail; Legislative Committee meeting; meeting of State Pharmaceutical Association Executives in connection with APhA meeting and attendance at APhA convention.

The Executive Director also reported on attendance at Board of Pharmacy meetings; tour of mail order prescription operation in D.C.; BMPA program committee; special hearing before the House of Delegates Environmental Matters Committee on High Blood Pressure; and visit to the Martingham Haverton Inn near St. Michaels as possible meeting site. The matter of Giant Food Pharmacies closing the prescription area of store while remaining open without a pharmacist on duty was discussed.

- Approved the Treasurer's reports for the months of June, July and August.
- Referred to a committee the matter of reviewing and evaluating the relationship of MPhA to the Cole Pharmacy Museum. The committee members are Stanley

Yaffe, Morris Cooper, Frank Block, Dean William J. Kinnard and Executive Director Gruz. The role of the Maryland Pharmaceutical Foundation will also be reviewed.

- Received Board of Pharmacy report noting extensive visitations of various pharmacies by members of the Board. The Board has been requested to give a ruling on the distribution of blank prescription forms by third party programs and also to make a determination on the phrase "in each case" as applied to the drug product selection law. The role of technicians is also to be determined. Referred the matter of standards of practice to the Tripartite Committee.

- Approved Convention and Trip Committee report on outline for a two-day convention in the Baltimore area in conjunction with a pre- or post-convention trip, possibly to London.

- Approved Membership Committee report.

- Received Tripartite Committee report noting that the matter of proper labeling of prescriptions has been turned over to the Tripartite Committee and that the Governor and the delegates involved in this legislation are to be so advised.

- Approved the appointment of Rudolph Winternitz for the vacancy of a three year term on the Board of Trustees created by the election of Mr. Friedman as Speaker of the MPhA House of Delegates.

- Received the School of Pharmacy report. The Dean noted that the incoming class numbered 91 students and that there are also 35 full time graduate students. Results of national Board exams show Maryland students having better results than non-Maryland graduates. Mr. Donald Fedder is now on the School of Pharmacy faculty in the area of community practice on a half-time basis. A program on drug abuse and alcoholism is planned as well as a radiopharmacy program.

- Decided to discuss a renegotiation of the affiliation agreement with APhA along the lines of the New Jersey agreement.

- Agreed that joint programs with other state associations could be arranged providing there was no conflict with programs in Maryland.

- Received Legislative Committee report which reviewed the convention approval of mandatory patient profiles and felt it would be best to reconsider this matter at the next Regional meeting.

- Referred to the Standards of Practice Committee the MSHP Institutional Pharmacy Regulations for a follow-up report to the Board of Trustees and a reply due to MSHP in 60 days.
- Received Prescription Insurance Programs Committee report noting that Construction Worker's plan has agreed to freedom of choice of pharmacy but that a number of pharmacists have experienced problems in processing or receiving forms. Legal Counsel is also working on the Teamsters Union plan to bring about freedom of choice. Efforts continue by MPhA to obtain a fee increase in the Medicaid program.

New Members

The following is a list of new members approved at the September 5, 1974 meeting of the Board of Trustees of the Maryland Pharmaceutical Association:

Allen Brickman, Baltimore, Marvin Oed Pharmacy
 Stanley Caplan, Randallstown, Giant Pharmacy
 Richard Chambers, Baltimore, USPHS Hospital
 Saul Davidson, Baltimore, Watermont Pharmacy
 Paul A. Feicht, Jr., Lexington Park, Treasury Drug Center
 Milton H. Feldman, Baltimore, Revco Drug Centers
 Morton J. Grossblatt, Baltimore, Purdum Pharmacy

Louis R. Kern, Jr., Havre de Grace, Harford Memorial Hospital
 Linda Craig Klein, Baltimore, Univ. of Md., School of Pharmacy Research Assistant
 Sidney Rosenfeld, Baltimore, Reads Drug Stores
 William T. Shaughnessy, Laurel, People's Drug Stores
 Melvin Shochet, Chevy Chase, Drug Fair
 Milton E. Stuart, Silver Spring, Bialek's Medical Arts Pharmacy
 David M. Via, Rockville, People's Drug Stores
 Myron J. Wright, North East, Retired

Sustaining Members Maryland Pharmaceutical Association

BORDEN-HENDLER COMPANY
 CALVERT DRUG COMPANY
 F. A. DAVIS & SONS
 H. B. GILPIN COMPANY
 LOEWY DRUG COMPANY
 MARYLAND NEWS COMPANY
 MILLER DRUG SUNDRY COMPANY

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We believe in firsts, because they keep you first in sales.

Call us. In D.C., 937-5300. In Baltimore, 792-7740.



FOTO DATE: AUG, 1974

*Dear Mother
 Here's Bobby
 Doesn't he
 look just
 wonderful.
 He's four
 now.
 Love,
 Viki*



Post Card

*Mrs. Peggy Smith
 210 Park Ave.
 Maintron
 Ohio 45602*

POST-A-PHOTO PERSONALIZED PRINT AND GREETING CARD
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DISTRICT PHOTO INC

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University of Maryland School of Pharmacy

Student Honors Convocation Held at School of Pharmacy

The Student Honors Convocation for the University of Maryland School of Pharmacy was held Wednesday, October 16, under the direction of Dr. Dean E. Leavitt, Assistant Dean for Student Affairs. Dr. Samuel Fox, medical director of the Drug Abuse Administration of the Department of Health and Mental Hygiene spoke on "The Role of the Pharmacist as a Health Professional."

Awards for Academic Excellence — 1973-74 — were presented to Marilyn I. Arkin, Helene Dr. Framm, Benjamin Kowarski, Bruce H. Krug, Samuel J. Matthews, David W. Porter, Angela K. Rusk, Daniel R. Weber, and Peggy A. Yules, of the Class of 1975. These awards were presented by Dr. Benjamin Hodes, Assistant Professor of Pharmacy at the University of Maryland School of Pharmacy.

Receiving Honorable Mention from this class were: Michael D. Brown, James P. Caro, Wendell D. Deaner, Howard J. Gampel, Blaise Lachowicz, Anna Marie Maiore, Liliane T. Marzouk, Jonathan C. Rowe, and Monica A. Urlock.

Medals presented to the Class of 1976 went to Dorothy A. Baucher, Michael P. Burns, Lilly L. Chua, Karen B. Demsky, Vincent L. Fabiano, Joseph Fallon, Preston E. Frallic, Linda L. Gleeson, John M. Gregory, George E. Groleau, Lorraine W. Klein, Raymond C. Love, Gary A. Merica, Carla A. Mosser, Stephen S. Navran, Judith A. Quick, Christopher Shawyer, Larry Slamovitz, Joanne L. Travis, Paula D. Wolfe.

Students receiving Honorable Mention from this class were: Stewart W. Carter, Pete W. Chan, Richard N. Fry, Mark E. Hawes, Paul F. Jarosinski, Carol L. Solt, Robert J. Varipapa. Awards to the class of 1976 were presented by Dr. David A. Knapp, Professor and Head of the Department of Pharmacy Administration. Extra-Curricular Awards went to Cleveland Yee, Class of 1975, and Louis Silverstein, Class of 1976.

Dean Kinnard Appointed Acting Dean of Graduate School

Dr. William J. Kinnard, Jr., Dean of the School of Pharmacy, has been appointed to serve as Acting Dean of the Graduate School at the University of Maryland at Baltimore campus, in addition to his duties at the pharmacy school. Dr. John P. Lambooy, former Dean of the Graduate School, has resigned from the position to serve as Chairman of the Department of Biochemistry at the School of Dentistry.

During the period in which the Dean Search Committee will be seeking to identify and nominate candidates

Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of October:

New Pharmacies

Charles County Prescription Shop, Inc., Jon D. Johnson, President; Route 5, Pinewood Enterprises Building, Waldorf, Maryland 20601.

Springfield Hospital Center — Pharmacy, Henry Schwartz and Louis Rose, Pharmacists; Sykesville, Maryland 21784.

Mount Washington Children's Hospital, Robert Chabon, MD, President; 1708 West Rogers Avenue, Baltimore, Maryland 21209.

Howard & Morris, Institutional Services, Morris Bookoff, President; 6801A Quad Avenue, Baltimore, Maryland 21237.

Revco Discount Drug Center, Sidney Dworkin, President; 50 Valley Mall, Halfway Boulevard, Hagerstown, Maryland 21740.

Deer's Head Center—Pharmacy, Dr. Edward Phoebus, Director; P.O. Box 2018, Salisbury, Maryland 21801.

Changes of Ownership, Address, Etc.

Cloverly Drugs, Inc., Jackson G. Carney, President (Change of corporation); 712 Cloverly Street, Silver Spring, Maryland 20904.

Hank's Pharmacy, E. Guy Dowling, President (Change of ownership); 221 Maryland Avenue, Cumberland, Maryland 21502.

Harris Pharmacy, Royal Lee Smith and Mary E. Smith (Change of ownership); 100 South Poppleton Street, Baltimore, Maryland 21201.

No Longer Operating As Pharmacies

GEM-AID Drug Store, Thomas H. Blatt, President; 3120 Branch Avenue, Suitland, Maryland 20931.

Patapasco Pharmacy, William G. Urspruch, 8181 Main Street, Ellicott City, Maryland 21043.

D. F. Onnen's Pharmacy, Albert Friedman, 1003 South Sharp Street, Baltimore, Maryland 21230.

leading to the appointment of a permanent dean for the Graduate School, Dean Kinnard will be building on the foundation established by former Dean Lambooy at the school and preparing the campus for a new dean.

"Dean Lambooy accomplished outstanding work in a difficult environment," Dean Kinnard comments, adding, "my role while a new dean is sought will be to build on that base." He also states, "I hope to improve communications between researchers and coordinate more interdisciplinary research." Other goals are to review where the school has been and what it has been doing and to evaluate the graduate and research programs to see where they should be going.

*a matter of professional interest to the pharmacist
from Merck Sharp & Dohme*

there's a great deal being said about hypertension these days... and it's being taken to heart

As a pharmacist, you are well aware that the cardiovascular complications of hypertension can mean early death or crippling disease: congestive heart failure, renal failure, stroke, myocardial infarction.

The prescriptions that you fill for diuretics and other antihypertensive medications are, along with proper diet and weight control, the best preventive measures known against these complications. And the increased number of these prescriptions may have led you to wonder whether the actual incidence of hypertension has risen.

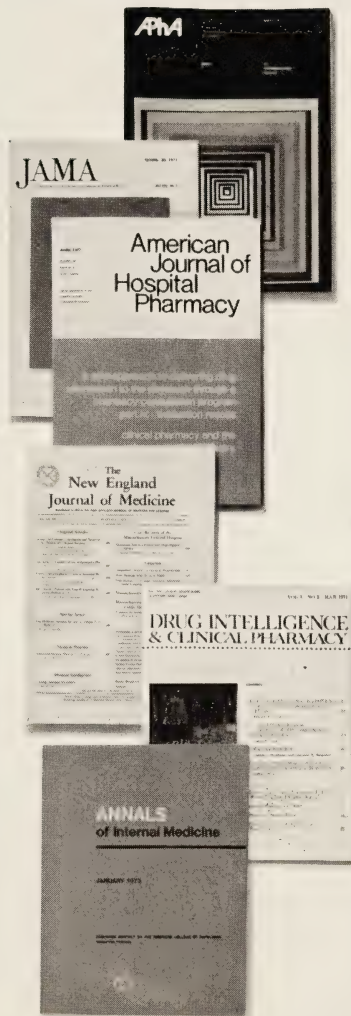
Perhaps it has. But not necessarily. Improved case-finding and physicians' decisions to institute drug treatment at an earlier stage of the disease could also be responsible.

At what reading does hypertension begin?

There are differing views as to where hypertension begins: some physicians say blood pressure readings of 140/90 mm Hg warrant further examination, while others use 160/95 mm Hg as the cutoff. But there is little doubt that a person's risk of developing the complications of hypertension is proportional to his blood pressure level.

Prompt detection and treatment urged

It can be expected that more people will become aware of their hypertension. An estimated 20 million Americans currently suffer from the disease.



A recent report in the *Journal of the American Medical Association* of a study conducted among nearly 23,000 adults employed in the Chicago area revealed that most who had high blood pressure did not know of their condition and that few of those who knew about it were receiving adequate treatment.¹ The editors of the journal urged doctors to "take a more responsible view toward [this] treatable illness."²

A growing body of evidence suggests that prompt detection and treatment substantially lower the risk of serious complications. Toward that end, the creation and funding of a National Hypertension Program were announced in 1972 by former Secretary of Health, Education and Welfare, Elliot L. Richardson.

Vital, growing role of pharmacist

Dr. Theodore Cooper, Director of the National Heart and Lung Institute, which is the focal point for coordinating the activities of this program, views the pharmacist as contributing to its success "both in his capacity as an actual 'health educator' and advisor to the public and in his capacity as a colleague of the prescribing physician."³

1. Schoenberger JA, Stamler J, Shekelle RB, Shekelle S: Current status of hypertension control in an industrial population, *JAMA* 222:559, Oct 30, 1972. **2.** Hypertension: A neglected phenomenon, editorial, *JAMA* 222:579, Oct 30, 1972. **3.** Cooper T: The National Hypertension Program, *J Am Pharm Assoc NS13*:135, March 1973.

MSD
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SHARP
&
DOHME

MERCK SHARP & DOHME recognizes the vital role played by pharmacists in any therapeutic regimen and is pleased to have brought you this information. We offer our continuing support in keeping you abreast of developments in several medical fields, including the treatment of hypertension.

Harry Schrader Honored by U.S. Dept. of Interior, National Park Service, at Dedication Dinner

It all began with an old medical sea chest that Harry Schrader donated to the American Pharmaceutical Association in 1938. The sea chest, used aboard early sailing vessels, contained medicinals and surgical instruments of that period. Presently, the sea chest has found a permanent home at the Smithsonian Institute.

Several years ago, Harry Schrader started thinning out his "private museum" of pharmaceutical memorabilia with donations to individuals and institutions, such as the Carroll Mansion and the Smithsonian Institute. Upon his retirement in January of this year, he literally gave his professional pharmacy to the Harpers Ferry National Historical Park for use in their restoration of a Mid-Century Apothecary Shop.

On Monday, September 30, 1974, Harry was honored by the U. S. Dept. of the Interior, National Park Service, during the formal dedication dinner at the Hilltop House in Harpers Ferry, West Virginia. There were many local and national dignitaries, as well as a contingent of Baltimore supporters in attendance. Reporters and TV cameras were there too, recording the story of a devoted and generous pharmacist and of a profession that has changed so much. The pill tile that has been replaced by a tablet machine, the dry botanicals, many of which are now made synthetically and the medicinal "leech" which has given way to a surgical procedure.

U. S. Senator Jennings Randolph (D) W.Va. and U. S. Senator Alan Bible (D) Nevada, spoke in glowing terms of the sizeable contribution Harry Schrader made to the apothecary shop that is being restored and stressed its educational value.

Dr. Michael Harris, a specialist in medical history and exhibits, of the Smithsonian, who was responsible for installing and arranging the paraphernalia unique to the old time medicine shop was also honored.

The evening's activities started with a walking tour to see history of more than a century ago, living once again. The blacksmith shop was going full blast; the hat and dress shop, with its bolts of fabric, was showing the latest fashions—for 1860; the general store featured eggs—6c a dozen; and the book shop had much printed matter, on display. To be sure—there was a saloon which was open—and busy. The Apothecary Shop, the star in this evening's show, was very well patronized, and photographed, but no prescriptions filled. A plaque on the wall acknowledged the part Harry Schrader and the Smithsonian had in making the Apothecary Shop, the latest store in the revival of the old town, an interesting and informative place to visit. Even the horses of the smartly uniformed park police had been included in the celebration. They sported heavy white braid on their saddles and head gear.



Mr. and Mrs. Harry Schrader of Baltimore are shown above in the pharmacy which recently opened at Harpers Ferry National Historical Park. Mr. Schrader, a retired pharmacist, currently is Honorary President of the Maryland Pharmaceutical Association. He contributed many of the authentic 19th century pieces for the pharmacy including mortars, pestles and glassware. The pharmacy is one of several shops recreated to demonstrate 19th century establishments. (Photo courtesy of *The Martinsburg Journal*)

The gracious, friendly spirit that we like to think permeates all small villages of the past, was very much evident, as strangers talked to strangers as they wandered and browsed through "living history" among the quaint and different shops.

A large framed water color painting by Robert Gebbing, of the exterior of the century old drug shop was presented to Harry during the ceremonies.

As we left, winding our way past the old lamp posts, with their tiny twinkling lights, we had a nostalgic feeling about the Schrader's Pharmacy that had ceased its professional operation in Baltimore. It was still operating—this time to show the young and future generations, how their forebearers met their medicinal needs.

It was a great evening for Mr. and Mrs. Schrader and their family. Their friends had a good time too. I can think of no better way to end this story, than to quote the poem with which Senator Randolph concluded this friendly autumnal event:

Autumn days are wonder days, with colors red and gold,
Summer's gone and Fall is here and the year is growing old.

And often I pause, to think that God, with mystic hand,
Has reached down from heaven and painted all the land.

—Ann Crane

Otrivin 0.1
Clymometazoline HCl
nasal spray
5mL

Geigy

...e a long-acting

The long action of Otrivin is even reflected by its package. It's the one that stands head and noses above the others on your shelf.

Otrivin is now marketed by **Novartis** and will be heavily promoted by physicians. Its long action and effective packaging are emphasized in detailing, and in the mail.

Now from
Geigy...

Otrivin®
xylometazoline HCl NF

Long on action,
short on doses.

[illegible]

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502
SA 10079

70% yea,

We're a little dismayed. Because last year, only 70% of pharmacists surveyed were pleased with Roche trade policies.

Many of those who were pleased cited the way Roche treats the practicing pharmacist. With policies like Return Goods and No Unsolicited Sampling...policies that make it really worthwhile to stock and dispense Roche products. And with programs like *The New Environment of Pharmacy*.

The other 30%? We must assume they're *not* happy with Roche...and we'd like to know why. Because it's Roche policy to give the same superior



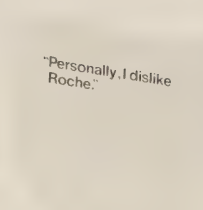
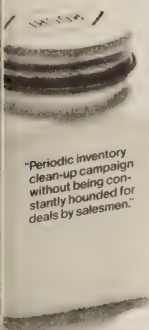
service to every pharmacy...from the smallest independent to the largest chain.

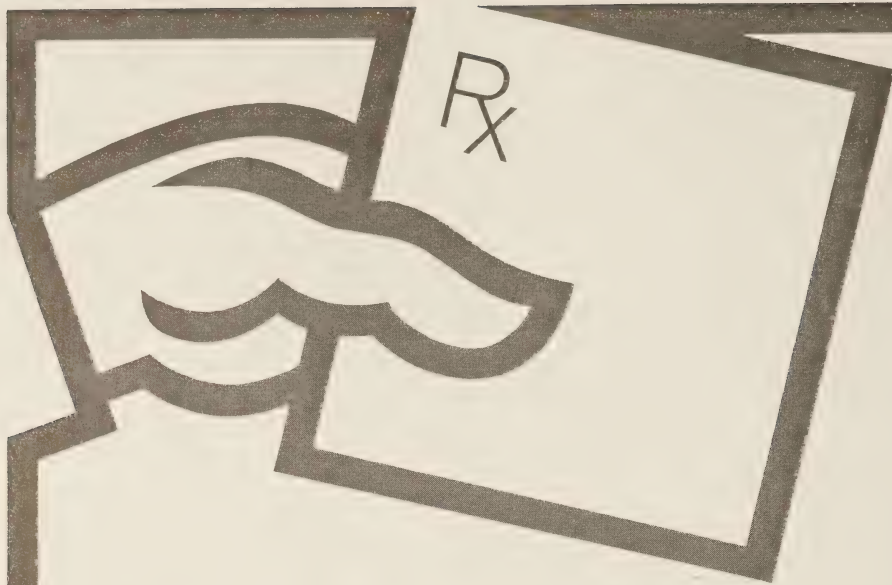
Our pharmacy policies haven't pleased everybody... yet.

30%
may.



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is the honor and integrity of its maker."TM

U.S.P. Drug Product Problems Report

Edited by Joseph G. Valentino, J.D.

Listed below are case studies which have resulted from the Drug Product Defect Reporting Program.*

These new case studies are intended to help practitioners become aware of problems involved in producing and maintaining high quality in drug products, thereby assisting them in detecting defective products and helping them avoid subjecting drugs to deleterious conditions of storage and handling. No reflection on any particular manufacturer, distributor, pharmacist, or product is intended or should be inferred from the case studies.

CASE STUDIES

I. Product Recalls

A. Exploding Aerosol Container

A Drug Product Defect Report stating that an aerosol container exploded on a physician's desk prompted the company to have detail representatives pick up all stock of the product from the wholesale level. Prior to the report they had stopped distribution of the product but the report prompted the recall and pick up of the merchandise.

B. Corroded Caps

One Company's gallon containers of Potassium Chloride had "dirty caps," "possibly rust or corrosion" according to a Pennsylvania hospital pharmacist's report. The company's investigation disclosed that the lacquer on the metal caps used to close the plastic bottles did not withstand the low pH of the solution. The solution then corroded the metal of the cap where it contacted the threads of the bottle. The plastic gallons with metal caps were recalled because of the reaction between the solution and cap. The company will use plastic caps in the future.

C. Chloride Error

A Virginia hospital pharmacist reported an approximate 50% error in stating on the label the chloride content of a protein hydrolysate injection. The firm agreed this could be of clinical importance especially in newborns. A recall letter was sent to notify users of the label error.

D. Label on Ampuls Differs from Package

A hospital pharmacist in Louisiana reported receiving 100 ampuls labeled Calcium Chloride Injection in a box labeled Calcium Gluconate Injection and with Calcium Gluconate inserts. The product was recalled.

*The work upon which this publication is based was performed pursuant to Contract No. FDA 72-88 with the Public Health Service, Food and Drug Administration Department of Health, Education and Welfare.

E. OTC Acne Cream Exhibits Mold Growth

A North Carolina community pharmacist was responsible for the recall of an OTC acne cream because of mold growth. The report noted "apparent mold growth inside the lid and on the product." The pharmacist also indicated this had occurred at least twice before but he had not reported it.

F. Potency Mix-Up

Due to a report from a hospital pharmacist in Washington State, an injectable local anesthetic was recalled. The drug is available in several strengths and is packaged in packages of 12. At least one such package contained 11 vials of one strength and 1 vial of another. The firm was aware of the mix up but had thought all such packages had been removed from the market. A recall was made to remove any others.

G. Pyrogen Reaction

A hospital pharmacist in Florida was responsible for a recall of Normal Serum Albumin. She noticed that two patients given the same lot of the drug had experienced chills and fever shortly after administration. The company recalled the drug because of the adverse reactions.

H. Tablet Mix-Up

A Virginia pharmacist reported finding tablets of two different sizes in a bottle of steroid tablets. The firm analyzed the odd size tablet and found it to be an antihistamine. It is believed the mix up was caused by someone at the manufacturing plant slipping a partially filled barrel containing the antihistamine tablets under the tablet filler to be filled with the steroid tablets. This resulted in one barrel of mixed tablets and ultimately a Class I, hazard to health, recall.

II. Product Improvements and Problems

A. Same Name—Different Formulation

An alert community pharmacist reported a possible point of confusion for pharmacists and physicians with the product Phenobarbital and Belladonna Tablets No. 2. It seems that there are two products marketed with the same unofficial generic name, containing the same ingredients, but with different amounts of Belladonna. One of the companies replied that a cautionary statement would be added to their labeling and catalogues stating that the brand must be specified to avoid confusion with competitors' products of the same name but different formulas.

B. Pharmacist Receives "Too Fresh" Product

A Georgia community pharmacist reported a topical skin lotion which was gray-light chocolate color instead of the medium peach lotion that he was accustomed to re-

ceiving. The company quickly responded saying that the product actually is the gray-light chocolate color when first manufactured. It gradually becomes redder as a minute amount of blue food and drug color, that is part of the color system, oxidizes giving the medium peach skin tone. Apparently, the preparation reached the pharmacist before the color change was completed.

C. *Route of Administration Missing from Ampul*

A Texas hospital pharmacist reported that one company's ampuls of Magnesium Sulfate Injection did not have the routes of administration printed on each ampul. The company responded to him saying they appreciated having this brought to their attention and that steps were being taken immediately to include the information on each ampul.

D. *Abuse Schedule Symbol Causes Label Confusion*

Many pharmacists have reported the possibility of errors in dispensing a line of cough medications in which the DEA legend symbol could be mistaken for the initials used in some of the product proprietary names. The company has informed the pharmacists that the symbol will be moved to another location on the label to eliminate the confusion.

E. *Misprint in Catalogues*

A New York City pharmacist pointed out that the generic name for one brand of prednisone was listed in the company catalogue incorrectly as prednisolone, while the statement directly under it said that each tablet contains prednisone. The company will correct this when that page is reprinted in the near future.

F. *Unit Dose Packaging Improved*

Many pharmacists have reported to the DPDR System their concern over the labeling of unit dose packages of an iron medication. The preparation is available in a tablet and in a timed release capsule form. The label of the unit dose does not distinguish between the two, but rather states only the trade name of the product. This leads to the possibility that the extended release capsule might be given when the tablet is ordered, and vice versa. The company reports that the label on the capsule form will be changed to indicate the difference.

G. *Diagnostic Reagent Strips to Contain Performance Test*

A Florida community pharmacist reported that one of his customers felt that the Diagnostic Reagent Strips she was using for determining her insulin and diet requirements seemed to be old. Since the bottle had no expiration date she had no way of knowing how old they were or whether they were in fact effective or accurate. The company replied that their package insert is to be revised and will contain a test by which to evaluate the strips' performance and thanked the pharmacist for drawing the matter to their attention.

H. *Container Modified*

The container for a popular decongestant tablet made by one company seems to have been inferior. Several re-

ports from around the country stated that this particular product often arrived in a broken bottle. The company responded saying that, because of these reports, their packaging research and development department has made a change to a bottle which is substantially heavier and as such should take more punishment while in transit.

I. *Tablet Discontinued*

A community pharmacist from Minnesota reported continually receiving a two-layer compressed tablet that crumbled or separated. On the basis of his report and another received a few months earlier, the manufacturer discontinued the distribution of the layered tablet. In the future, the tablet will not be layered.

J. *Ophthalmic Bottles Difficult to Open*

Numerous pharmacists have reported difficulty removing the metal cap on a certain ophthalmic preparation, with many stating that they were using pliers or wrenches and often breaking the glass bottle. The company has recently responded that the cap liner has been modified so that the capping pressure may be reduced, while still preventing moisture uptake and retaining a therapeutically effective drug. The new packaging should be available in the not too distant future.

K. *Text Reports Incorrect Strength*

A Maryland pharmacist reported that the strength of one ophthalmic preparation was incorrectly listed in a current reference publication. The company sent her a copy of a letter they wrote to the publisher of the book pointing out this error.

L. *Labeling of Vials Rubs Off*

In response to a report from a hospital pharmacist in Pennsylvania one company indicated that it had made one change in the ink used to label its vials. However, the new ink had not solved the problem, as the imprint was rubbed off when the vial was wiped with alcohol. To correct the problem, future shipments will be made in vials with the ink "baked on so that it will be practically impossible to obliterate."

M. *Label Visibility Improved*

An Ohio hospital pharmacist's report concerning an ophthalmic preparation which comes sealed in a sterile plastic envelope alerted the manufacturer to a problem with the envelope. The envelope has a clear side and an opaque side and the product label is sometimes placed in the envelope facing the opaque side so that it cannot be readily identified during surgery. The company responded that they had alerted the production department as to the problem and would attempt to place the product in the bags in such a way as to provide maximum label visibility.

COLD SORES—Blisters which form along the outer edge of the lips or under the nostrils are commonly called cold sores or fever blisters because years of observation have shown that they often accompany respiratory infections or some other temperature disturbance such as sunburn, reports the National Institutes of Health.

Well absorbed
even when taken immediately after meals

E-Mycin®
erythromycin enteric-coated tablets, Upjohn
250mg
Formulated for quality...
Priced for economy

E-MYCIN TABLETS—250 mg—For Oral Administration (erythromycin enteric-coated tablets, Upjohn) E-Mycin Tablets are specially coated to protect the contents from the inactivating effects of gastric acidity and to permit efficient absorption when administered either immediately after meals or when given between meals on an empty stomach.

Indications:

Staphylococcus aureus: Acute infections of skin and soft tissue of mild to moderate severity. Resistance may develop during treatment.

Diplococcus pneumoniae: Upper respiratory-tract infections (e.g., otitis media, pharyngitis) and lower respiratory-tract infections (e.g., pneumonia) of mild to moderate degree.

Mycoplasma pneumoniae (Eaton agent, PPL0): In the treatment of primary atypical pneumonia, when due to this organism.

See package insert for other indications.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when

indicated.

Adverse Reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy there is a possibility of overgrowth of nonsusceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

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Institutional Pharmacy Section

Peter P. Lamy, Ph.D., Editor

PEDIATRIC DRUG DOSAGE

by

DAVID M. ARRINGTON, M.S. and
PETER P. LAMY, Ph.D.*

Numerous formulas have been used to calculate the appropriate dosage of a drug for the pediatric patient, most related in some fashion to the adult dose. The average dose for the adult is not a mathematical average, but the dose for the average patient. The adult average dose itself is not too satisfactory, as it is frequently based on objective or subjective evaluations rather than on scientific fact (11).

Two of the most readily obtainable parameters of the pediatric patient are age and weight, and historically, the majority of the pediatric formulas used one of these two parameters as a basis for calculating dosage. The multiplicity of formulas is itself an indication that no one particular formula yielded a reliable estimate of the actual dose required for the pediatric patient. Appendixes A and B list drug formulas which were used in the past to calculate the appropriate dose for the pediatric patient. These formulas are only listed for their historical interest and a basis of comparison for more recent developments in pediatric drug dosage.

The dosage rules listed in Appendixes A and B have consistently failed. Rules are still not available for premature and full-term newborn infants (13), as at that stage body processes which might affect drug dosage are maturing at different and sometimes unpredictable rates (11). Therefore, clinical experience with the individual involved is the only way to estimate the appropriate dose in this age group. However, doses based on surface area provide the practitioner with a reliable basis for calculating drug dosage for patients beyond the neonatal period.

Talbot and Richie (18) state that the use of surface area of the body as a basis for calculation enables the clinician to discern relationships between dosages and body needs and tolerance limits. There are some (6) who believe that the body surface area principle of calculating doses is based on an unsound scientific foundation and unacceptable theory, but they fail to report workable alternatives. Stickler (17) proposes a method for "allometric" drug dosage determination based on the general concept of the relationship of drug dosage to a power

function of body weight which gives similar results to the various surface area methods.

In short, it seems that the surface area method of calculating drug dosage is a practical but not infallible way of estimating initial pediatric drug doses. The practitioner should always be aware that corrections for metabolism, edema, obesity, and other clinical circumstances are often necessary (1).

The basic formula, of which there are many variations, to calculate a child's dose on the basis of body surface area is (19):

$$\frac{\text{Child's Dose}}{\text{Dose}} = \text{Adult Dose} \times \frac{\text{Body Surface Area of Child}}{\text{Body Surface Area of Adult}}$$

For the "adult dose" one uses the "usual dose" as listed in the National Formulary¹ and the United States Pharmacopeia² or by a manufacturer.

For the "body surface area of adult" the body surface area of an average adult weighing approximately 70kg. (154 pounds) is used (19). In the usual determination of body surface area, both the height and weight values require the use of a nomogram. The West nomogram (Figure 1), has the usual components, i.e. height, weight, and surface area. Its use also permits rapid conversion to surface area from weight alone. This conversion from weight alone can be made with little fear of any important final error (12). The calculation of the child's dose by body surface area should be used as a first approximation and subsequent therapy should be adjusted according to the patient's clinical response (19).

One of the variations of the basic formula for calculating pediatric doses based on body surface area is known as Clark's Rule (10):

$$\frac{\text{Child's Dose}}{\text{Dose}} = \text{Adult Dose} \times \frac{\text{body surface area of child in square meters}}{1.73}$$

Snively (15) and Snively, *et al.* (16) propose a method of determining body surface area based on a patient's sitting height.

Children Under Six Months of Age—

$$\text{Surface area in square meters} = (\text{sitting height of child})^* \times 0.00017$$

*David M. Arrington, M.S. was a Graduate Student in the Institutional Pharmacy Program, School of Pharmacy, University of Maryland, Baltimore, Maryland; and is currently Supervisor of Adult Medicine Unit Dose, The Johns Hopkins Hospital, Baltimore, Maryland.

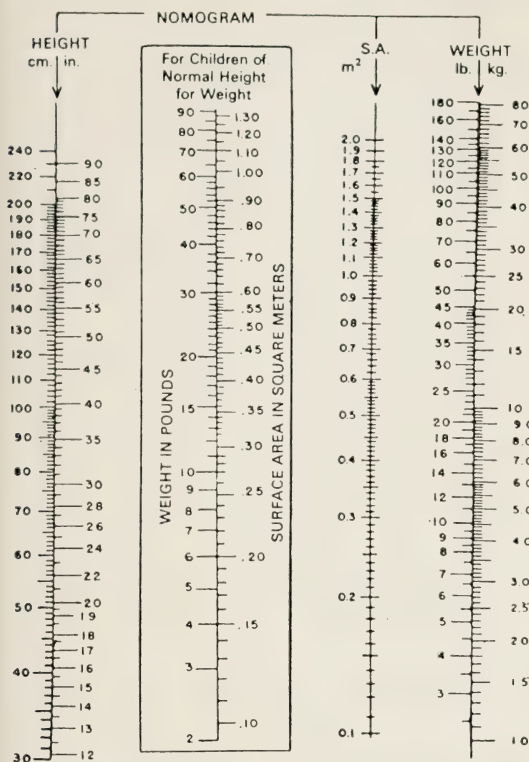
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¹ National Formulary XIII, Easton, Pa., Mack Publishing Co., 1970.

² The United States Pharmacopeia XVIII, Easton, Pa., Mack Publishing Co., 1970.

FIGURE 1. WEST NOMOGRAM

Reproduced with the permission of W. B. Saunders Co., Philadelphia.



West nomogram (for estimation of surface areas). The surface area is indicated where a straight line connecting the height and weight intersects the surface area column, or, if the patient is roughly of average size, from the weight alone (enclosed area). Nomogram modified from data of E. Boyd by C. D. West, from Shirkey, H. C., "Drug Therapy" in "Textbook of Pediatrics," 9th ed (Nelson W. E. editor), W. B. Saunders Co., Philadelphia, 1969.

Children Six Months to 14½ Years of Age—

Surface area in

square meters = (sitting height of child) * x 0.00019

*sitting height = crown rump length in centimeters (cm.)

Augsberger (2) and Costeff (4) each have proposed a formula for the calculation of body surface area:

Augsberger's Formula: (from ages 1 to 20)

Body surface area in square meters = $\frac{7 \times \text{age of child in years} + 35}{100 \text{ square meters}}$

Costeff's Formula:

Body surface area in square meters = $\frac{(4 \times \text{weight in kg.}) + 7}{\text{weight in kg.} + 90}$

Glazko (7) describes a nomogram based on the 0.7 power of body weight from which the pediatric dose can be read directly. Others (5,9) propose variations in the body surface area principle of dosage calculation which they feel simplify its clinical application.

A formula proposed by Shirkey (12) emancipates the child from adult dosage completely:

Child's Dose = $\frac{\text{Surface area of child} \times \text{dose per square meter}}{(\text{in square meters})}$

The dose per square meter is applicable to older infants, young school children, adolescents, and adults.

Although the dosage is given in terms of body surface area in virtually all authoritative texts and treatises on body surface area this dosage is not stated on the labels of pharmaceutical products either for children or adults (14). Tradition is hard to change. This point tends to emphasize the importance of every practitioner having the ability and opportunity of researching authoritative texts and treatises for this information which could be (and in many cases is) vital to the health of the pediatric patient.

Pharmacists cannot isolate themselves from the medical community in this matter. Their role should be one of educating other medical practitioners in this important field (the references listed herein should prove to be a valuable asset in this undertaking). They should work closely with physicians, nurses, and other practitioners as to which particular surface area method of calculating pediatric drug doses is most applicable in their clinical setting. Once a method is adopted and clinical experience with it is gained, it can be evaluated and altered or supplemented according to individual clinical circumstances if necessary. Pharmacists have begun to pay closer attention to the important field of pediatrics. It is incumbent on them to take an even more active role.

APPENDIX A

Dosage Estimation Based on Age

Augsberger's Rule (2):

$\frac{(4 \times \text{age in years} + 20)}{30} \times \text{adult dose} = \text{child's approximate dose}$

Bastedo's Rule (3): USA

$\frac{\text{age in years} + 3}{30} \times \text{adult dose} = \text{child's approximate dose}$

Brunton's Rule (2): France

$\frac{\text{age in years}}{25} \times \text{adult dose} = \text{child's approximate dose}$

Cowling's Rule (2,3): USA

$\frac{\text{age in years} + 1}{24} \times \text{adult dose} = \text{child's approximate dose}$

Dilling's Rule (2,3): USA

$\frac{\text{age in years}}{20} \times \text{adult dose} = \text{child's approximate dose}$

Fried's Rule (3): USA

$\frac{\text{age in months}}{150} \times \text{adult dose} = \text{infant's approximate dose}$

Martinet's Rule (2): France

$\frac{\text{age in years} + 1}{20} \times \text{adult dose} = \text{child's approximate dose}$

Starkenstern's Rule (2): Austria

$\frac{\text{age in years}}{18} \times \text{adult dose} = \text{child's approximate dose}$

Young's Rule (2,3,8): USA and Europe

$$\frac{\text{age in years}}{\text{age in years} + 12} \times \text{adult dose} = \text{child's approximate dose}$$

APPENDIX B

Dosage Estimation Based on Weight

Augsberger's Rule (2): for children 1 year of age and older
 $(1.5 \times \text{body weight in kg.} + 10) \% \times \text{adult dose} =$
child's approximate dose

or

$$(0.7 \times \text{body weight in pounds} + 10) \% \times \text{adult dose} = \text{child's approximate dose}$$

Clark's Rule (3,8): English speaking countries

$$\frac{\text{body weight in pounds}}{150} \times \text{adult dose} = \text{child's approximate dose}$$

Hamburger's Rule (2): Europe

$$\frac{\text{body weight in kg.}}{70} \times \text{adult dose} = \text{child's approximate dose}$$

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Excerpts From the PHARMACY AND THERAPEUTICS BULLETIN

University of Maryland Hospital

ARTHUR N. RILEY, M.S., *Editor*

Poison Prevention Packaging Act of 1970

In an effort to curtail the number of accidental poisonings in children, the Poison Prevention Packaging Act of 1970, effective April 16, 1974, requires that all oral drugs dispensed for use outside of the hospital be packaged in child-proof containers.

However, either the physician or patient may elect that the drug not be dispensed in a child-proof container. Older patients, arthritic sufferers, etc. may have difficulty in removing the container top. In such instances, the physician may designate on the prescription order that the drug not be dispensed in a child-proof container. Patients themselves may request a non-complying container when they present their prescription order at the pharmacy.

The exclusions from the child-proof container requirement are:

1. Sublingual nitroglycerin tablets
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3. Aerosol containers for inhalation use
4. Drugs packaged in dispensing size containers with conventional closures or manufactured prior to April 16, 1974

—Benjamin Scheinin, M.S.

Maryland Society of Hospital Pharmacists

The October meeting of the Maryland Society of Hospital Pharmacists was held at the Anne Arundel General Hospital in Annapolis, Maryland. Guest speaker was Dr. Aris T. Allen, Vice President of the State Medical Society (Med Chi) and a member of the Maryland State Legislature since 1966. Dr. Allen who was also Minority Whip from 1968 to 1971 spoke on Substitution Laws and described the steps that are taken when a Bill is introduced into the legislature.

Arthur Riley, Seminar Chairman, announced that the 1975 Seminar will be held at the Sheraton Fontainebleau in Ocean City, Maryland from June 6 to June 8. MSHP Secretary, Michael Luzuriaga, announced his resignation in order to enter Dental School. An addition to the Bylaws regarding voting instructions for Delegates to the annual ASHP meeting was approved.

TAMPA News

The Travelers Auxiliary of the Maryland Pharmaceutical Association met at the Phil Mar Inn on September 12, 1974. President Abe Bloom called upon all his committee chairmen for their reports, thanked them for their efforts and discharged them from further duties. Outgoing President Abe Bloom presented his report reviewing the year's activities. Then John Cornmesser installed the new officers for the coming year. Abe Bloom turned over the gavel to incoming President John Fagan.

The first duty of the new President was to call upon Herman Bloom to present the Past President's pin to Abe Bloom. This was the first time in TAMPA's history that a father and son had both held the office of President. Honorary President Donald Brown also received a gift for his work during the past year. President Fagan then delivered his address.

Eastern Shore Pharmaceutical Society

The Eastern Shore Pharmaceutical Society held its September meeting at the Memorial Hospital in Easton. The program included an educational session. A similar program was planned for November 13.

Prince Georges-Montgomery County Pharmaceutical Association

A general meeting of the PGMCPHA was held on October 13 at the Chillum Masonic Temple in Hyattsville, Maryland. Mr. Robert Henry, Director of Professional Relations, United States Pharmacopeial Convention, was guest speaker. His talk was entitled "Give the USP to the Elephants."

Upper Bay Pharmaceutical Association

A general meeting of the Upper Bay Pharmaceutical Association was held on October 30 at the Red Fox Inn in Bel Air. Items of business which were discussed included a report from the nominating committee concerning candidates for the November elections and a report from President Ed Sears concerning his appearance before the State Board of Pharmacy regarding geographic licensing restrictions.

It was decided that the November election meeting would be held on November 20 at the Bush River Yacht Club and the installation dinner was tentatively set for January 25, 1975.

A.Z.O. News

Kappa Chapter of the Alpha Zeta Omega Pharmaceutical Fraternity held a breakfast meeting on October 13 at the Suburban House Restaurant in Pikesville. Members of the Auxiliary were invited to attend the program which included a special film presentation provided by the APHA entitled "Swamp Root, Snake Oil and Waha Bitters."

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Reserpine Reported To Increase Incidence of Breast Cancer

The Food and Drug Administration has taken great interest in an unexpected finding reported in a series of three papers published in the September 21, 1974, issue of *Lancet*. The authors report that the long-term administration of reserpine to women with hypertension is associated with an estimated two to threefold increase in the risk of developing breast cancer.

This association was originally detected by the Boston Collaborative Drug Surveillance Program.¹ Because of the importance of this finding, additional retrospective epidemiological studies were conducted by investigators in Finland² and the United Kingdom.³ These trials independently confirmed the increased incidence of breast cancer in women taking reserpine. In addition, the Boston study and the British study raise concern that the long-term administration of reserpine may be associated with an increased risk of other tumors in both males and females.

FDA emphasizes that an increased risk of cancer has been reported only for reserpine. These studies have not identified an increased risk of cancer in hypertensives in general, nor any increased risk associated with the use of other antihypertensive drugs such as thiazides, hydralazine, methyldopa, or guanethidine.

FDA believes that the reported studies are important epidemiological trials which demand a reassessment of the role of reserpine in the management of hypertension in relation to this newly reported risk. Accordingly, FDA is conducting, in consultation with outside advisors and consultants, an independent review of the data recently reported in *Lancet*.

In addition, FDA will soon be convening a joint meeting of its Cardiovascular and Renal Advisory Committee and its Biometry and Epidemiological Methodology Advisory Committee. This meeting will provide an opportunity for open discussion of these papers and their implications.

After review of all the evidence, FDA will promptly announce its decision regarding the continued marketing status and labeling of reserpine and its analogs. Meanwhile, physicians may wish to make their own appraisal of these reports and their implications.

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Obituaries . . .

Thomas M. Blatt

Thomas M. Blatt, 47, 1952 graduate of the University of Maryland School of Pharmacy and proprietor of Blatt's Pharmacy for 22 years, died on October 15.

Joseph B. Maisel

Joseph B. Maisel, 45, pharmacist and real estate developer in the Washington area, died on September 21 at his home in Hollywood, Florida.



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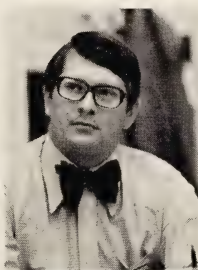
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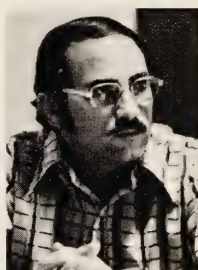
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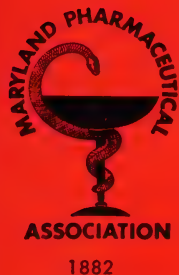
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Needed: Equitable Remuneration for Pharmacy Services

Proceedings . . .

92nd Annual Convention of the
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The Hospital Medication Error Dilemma

by Berry J. Means, M.S.; Henry J. Derewicz, M.S.
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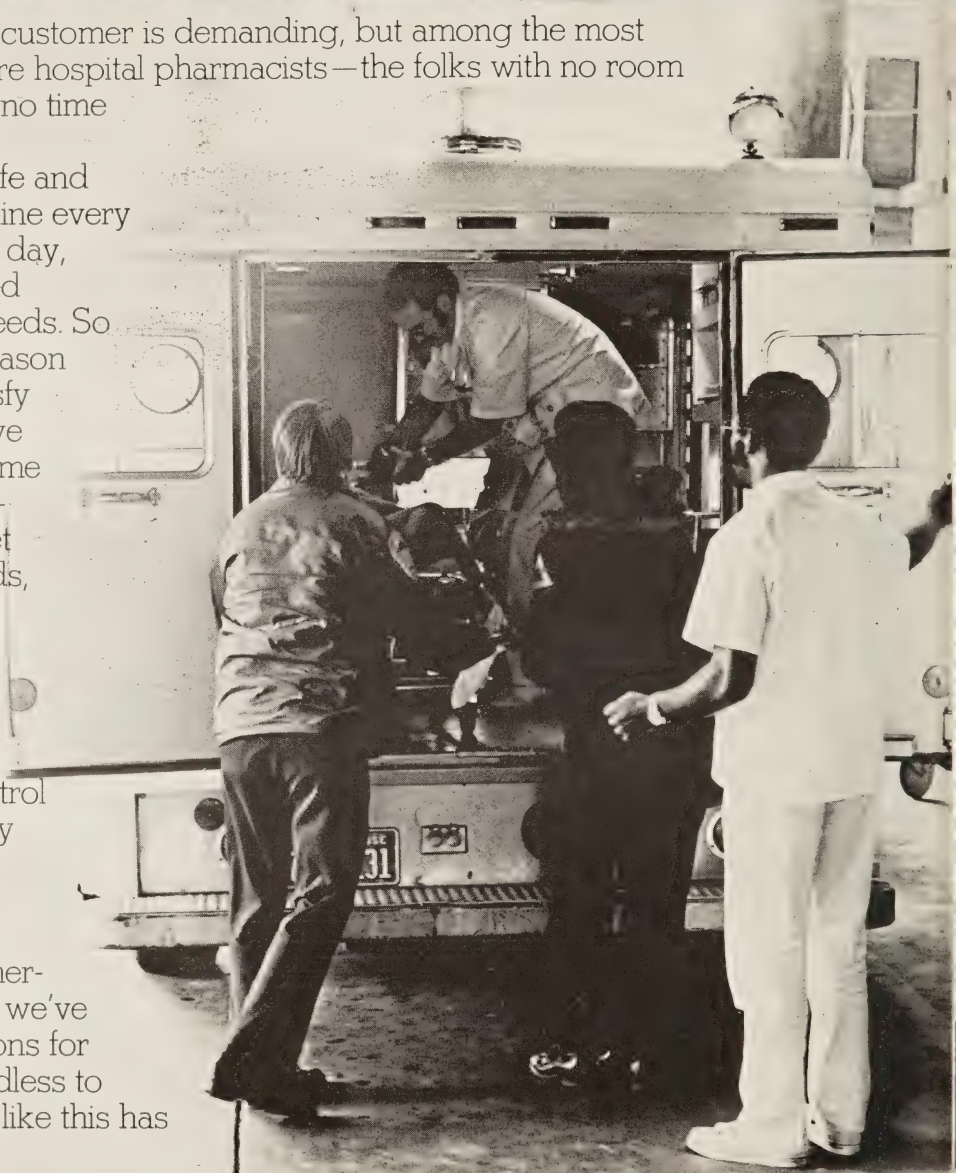
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Editorial . . .

Needed: Equitable Remuneration for Pharmacy Services

It hardly needs saying that pharmacists are adamant about the current situation in which "third-party" or prescription insurance programs are reimbursing pharmacists at fees that are below what is equitable and necessary for pharmaceutical service of high professional standards.

The Maryland Pharmaceutical Association devotes considerable time and effort to improve the policies established by various groups to administer third-party programs. MPhA has provided administrators with pertinent information about the management and economic factors involved in serving the needs of the public. On-going programs can only obtain maximum participation by pharmacies throughout the state by taking these facts into consideration. In addition, tremendous effort has been exerted to obtain an increase in the Medicaid pharmacy fee, which has remained constant since July 1970.

The Maryland State Department of Health and Mental Hygiene has recognized the need for equitable remuneration for pharmacy services by requesting fee increases every year since 1972. Unfortunately, the necessary budgetary funding was not approved.

This year, at long last the Board of Public Works has approved an increase effective in January 1975, if approved by an interim committee of the Legislative Council.

By now all pharmacists must understand that the facts of life in our democracy require that every profession or occupational group will only get the results it requires and wants if there is:

- 1—A representative state association made up of all persons with a stake in the "health" of that profession. For pharmacy in Maryland this translates into the necessity for a Maryland Pharmaceutical Association of maximum membership capable of speaking from a position of maximum strength.
- 2—Vigorous political action. For pharmacy this must be through PHARMPAC—The Pharmacists' Political Action Committee.

For progress in the third party area, for action on Medicaid, for public information programs, for legislative effectiveness—contact your uncommitted colleagues. Contact them for MPhA membership and contact them for subscription to PHARMPAC.

If you personally have not already fully responded to the PHARMPAC subscription request or to the personal contact by one of your colleagues, then mail your *subscription* to PHARMPAC today.

—Nathan I. Gruz

PHARMACY CALENDAR

1975

- January 9** (Thursday)—Joint BMPA-MSHP meeting at University Hospital, 7:30 p.m.
- January 14-22**—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Hilton Hawaiian Village Hotel, Honolulu, Hawaii.
- January 16-24**—Maryland Pharmaceutical Association Hawaiian Holiday and Seminar, Group II, Princess Kaiulani Hotel, Honolulu, Hawaii.
- February 2** (Sunday)—University of Maryland School of Pharmacy Third Annual Oyster Roast, Overlea Hall.
- February 9** (Sunday)—Annual Installation Banquet, Baltimore Metropolitan Pharmaceutical Association, Blue Crest North.
- February 16** (Sunday)—Continuing Education Program—"Third Party Programs and Health Care," Friendship International Hotel.
- March 20** (Thursday)—Robert L. Swain Pharmacy Seminar—"Patient Medication Record Systems."
- April 19-24**—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.
- May 27** (Tuesday)—University of Maryland School of Pharmacy Alumni Association Annual Alumni Banquet, Eudowood Gardens.

DIABETES DETECTION WEEK

Members of the Maryland Pharmaceutical Association again participated in Diabetes Detection Week, November 17-23. According to Baltimore City Health Department records, diabetes, which is ranked nationally as the fifth leading cause of death by disease, was listed as the cause of death for 290 Baltimoreans last year.

To assure that no one will lose the opportunity to be checked for diabetes, pharmacies are encouraged to have Dreypak self-testing kits available on a year-round basis. These may be obtained from the drug wholesalers at \$5.00 per hundred.

Continuing Education Program Rescheduled

The program on "Comprehensive Review of New Drug Products" originally scheduled for January 12, 1975 at the Center for Adult Education, College Park, Maryland has been rescheduled for Sunday, January 5. The program is being offered by the University of Maryland School of Pharmacy Continuing Education Division.

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MPhA In Action

Board of Trustees Meeting

NATHAN I. GRUZ, *Executive Director*

October 10, 1974

- Received letter from APhA commending MPhA for publication of Maryland Prescription Insurance Plans information.
- Received communication from the USP outlining the procedure for distribution of *USP XIX* through the state association.
- Approved President's report announcing changes of the following committee chairmen: Consumer Affairs Committee—Donald O. Fedder; Joint MPhA-MSHP Peer Review Committee—Dr. Peter P. Lamy, Chairman; Irvin Kamenetz, Co-chairman. Also announced the appointment of Patrick Birmingham as Public Information Committee Chairman. The President reviewed his activities including meetings with Read's Drug Board, matters related to Giant Pharmacy being open without a pharmacist on duty, Legislative Committee, Board of Pharmacy, attendance at Anne Arundel Pharmaceutical Association interprofessional meeting, Drug Evaluation Committee, Tripartite Committee and meeting with Dr. Julian Emerson concerning remarks made on a radio program about pharmacists.
- Approved Treasurer's report.
- The Executive Director reported on his activities regarding the request of the Federal Trade Commission for information in connection with prescription pricing matters which entailed extensive work and time. The reply consisted of an eleven page statement with 43 exhibits in support.

Other activities included Third Party Insurance Programs, particularly the effort to obtain an interim increase in the state medicaid fee; BMPA Executive Committee; TAMPA; Conference with Read's; Maryland Society of Association Executives; meeting with Senator McGuirk; Legislative Committee; Liaison Committee; Board of Pharmacy; attendance at NARD meeting; State Pharmaceutical Association Executives; Metropolitan Association of Executives; American Medical Writer's Association; Drug Evaluation Committee; Tripartite Committee; and involvement in the Governor Mandel's Citizen Election Committee. The matter concerning operation of pharmacies without a pharmacist on duty required numerous contacts with legal counsel, the Attorney General's office and with state officials.

- Approved appointment of Samuel Lichter to fill vacancy on Board of Trustees.
- Received report of Finance Committee. The committee recommended increase in pharmacist's dues from \$35 to \$40 and in the pharmacy fee from \$50 to \$60. The budget of \$73,000 of projected receipts and \$70,000 expenditures was recommended. The dues increase and budget recommendations were approved by the Board.

- Agreed to notify committee chairmen that written committee reports are to be provided which will be sent to delegates in advance of Fall Regional Meeting.
- Received Prescription Insurance Plans Committee report which discussed the problems in connection with the Medicaid program, such as fee and the basis of wholesale cost, also specific problems associated with various plans.
- Received Tripartite Committee report. Revision of the state pharmacy law will be a primary objective of this committee.
- Approved the following statement: "The Board of Trustees of the Maryland Pharmaceutical Association believes that the article in the *Baltimore Sunday Sun Magazine* of October 6, 1974 in which Dr. William J. Kinnard, Jr., Dean of the University of Maryland School of Pharmacy was interviewed in general deserves commendation. However, the Board does express its displeasure with some of the comments about community pharmacy which it considers demeaning."
- Received Board of Pharmacy report noting activities and proposed re-organization of Boards in the Department of Health.
- Approved reward fund of \$500 for information leading to the conviction of anyone engaged in the armed robbery of a pharmacy owned by a member in good standing.
- Received report on meeting set up with Director of Maryland State Comprehensive Planning Agency regarding Pharmacy and MPhA involvement.
- Received report on School of Pharmacy Continuing Education Programs.

New Members

The following is a list of the new members approved at the October 10, 1974 meeting of the Board of Trustees of the Maryland Pharmaceutical Association.

Raymond Foer, Greenbelt, Mellon Pharmacy
Jerome Friedman, Baltimore, Read's Drug Stores
James Gardina, Greenbelt, People's Drug Stores
Jack B. Levin, Randallstown, Drug Fair
Robert Michocki, Baltimore, University of Maryland Hospital
Gary Oderda, Columbia, University of Maryland Poison Control Center
Samuel Robbins, Baltimore, Richardson's Pharmacy
Harry J. Williams, Baltimore, Drug Fair



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Maryland Pharmaceutical Association

92nd Annual Convention

Downingtown, Pennsylvania

June 23-27, 1974

PROCEEDINGS

Opening General Session

The Convention was called to order by President Anthony G. Padussis at 9:15 a.m. After opening remarks, he called upon Convention Chairman Paul Freiman for greetings.

Chairman Freiman welcomed all and made announcements regarding the business program and entertainment. Greetings from Prince Georges-Montgomery County Pharmaceutical Association were brought by Melvin Sollod, a past President of the group and from Eastern Shore Pharmaceutical Society by past President James W. Truitt, Jr. Also recognized were Milton Watkowski, President of the Anne Arundel Pharmaceutical Association and Melvin N. Rubin, President of the Baltimore Metropolitan Pharmaceutical Association.

The Chair was then turned over to President-elect Paul Freiman who presented President Padussis to deliver his presidential address. The address is printed elsewhere in the journal. Upon the motion of S. Ben Friedman, duly seconded, the President's Report was accepted. President Padussis again assumed the Chair and called upon Executive Director Nathan I. Gruz to present his report. This report is printed elsewhere in the journal. Upon motion of Dennis Klein, seconded by Henry Seidman, the report of the Executive Director was accepted.

Discussions were held on the following items: the matter of diagnosis and prescribing by Army technicians; the problem resulting from physicians leaving prescriptions with telephone switchboard operators for transmission to pharmacists who were asked to call in; the oral transmission of copies of prescription orders to a non-pharmacist; the permissibility of one pharmacist giving a copy of a prescription to another pharmacist and the usefulness of a refill log to be kept in each physician's office.

Alexander Mayer explained the Federal Safety Closure Law. There was then a discussion of the need for explanations in clear language regarding pharmacy laws, regulations, practices and guidelines to physicians and hospital staffs. Emphasis was made about the information lack particularly on controlled dangerous substances. Mr. Ronald Williams, Secretary of the APhA Academy of General Practice, also spoke on the Consumer Product Safety Act and stated that physicians cannot give a blanket release on safety closures on all prescriptions. The need

for clarification of the law of physician's ancillary personnel in calling prescriptions was stressed.

As a result of the work that Herman Bloom accomplished on behalf of PHARMPAC and in almost single handedly arranging and carrying out the fund raising affair at the dinner theatre, he was given a vote of thanks by all assembled. Mr. Robert Snyder was then recognized as representative of the Maryland Society of Hospital Pharmacists.

HOUSE OF DELEGATES

First Session

S. Ben Friedman, Speaker of the House, called the first session to order at 11:00 a.m.

He announced the appointment of a Resolutions Committee with Joseph U. Dorsch, Chairman, and Melvin Sollod, James W. Truitt, Jr. and Robert Caplan as members. The Secretary of the House, Nathan I. Gruz then announced that a quorum was present. The Speaker then reviewed the agenda to be covered in the following sessions.

The session adjourned at 11:30 a.m.

June 25, 1974

Second Session

The General Session was called to order by President Padussis at 9:15 a.m. Executive Director Gruz announced that Treasurer Lindenbaum had called in and that due to unavoidable circumstances he would be unable to be present. The President called upon Mr. Gruz to present the Treasurer's Report. The Treasurer's Report included the report of Gross, Mendelsohn & Weiler, Certified Public Accountants. It indicated assets of \$39,777. Income was \$64,067 and expenditures were \$58,854.

The second session of the House of Delegates was then called to order at 9:30 a.m. by the Speaker S. Ben Friedman. The report of the Board of Trustees was then given by Chairman Bernard B. Lachman. The Prescription Insurance Programs Committee report was given by Chairman Melvin N. Rubin.

There was discussion of the BMPA decision to take legal action, if necessary, against the state for non-payment of monies due pharmacists for filling bona fide prescriptions pursuant to state issued temporary identification cards.

Mr. Paul Reznick pointed out the necessity for one uniform prescription claim form for use in all Third Party Plans. Executive Director Gruz reported on the NPIC form and on the work of APhA and COPEs with the Health Insurance industry. Locally the Pharmaceuti-

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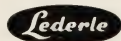
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cal Services Foundation of Maryland which had been using the NPIC form is now using their own form which is an improvement over all those available.

Paul Freiman was then called upon to present the report of the Legislative Committee. There was considerable discussion regarding the Medicaid reimbursement and House Bill 1636 regarding labeling of prescription drugs that might impair driving. Mr. Sollod suggested that the problems which are the subject of HB 1636 be referred by the President to the Tripartite Committee.

Nathan Schwartz moved that the Legislative Committee be authorized to work on a permissive posting bill to be presented at the Fall Regional Meeting House of Delegates, seconded and passed. Mr. Schwartz suggested that consideration be given to contacting federal legislators and authorities regarding compensation to pharmacists in federal health programs.

The matter of support for the Baltimore Metropolitan Pharmaceutical Association in seeking legal action to resolve problems on long overdue payment of medicaid bills was referred to the Resolutions Committee.

Report of the Public Relations Committee was presented by Charles E. Spigelmire, Chairman. The Report of the Constitution and By-Laws Committee was presented and copies distributed to all delegates for review.

Mr. Sollod moved that the matter of proper labeling of prescription drugs be referred to the Tripartite Committee to develop guidelines or regulations as appropriate, seconded and passed.

Peer Review Committee, Irvin Kamenetz, Chairman, report was read by Mr. Gruz. There was discussion about expanding the role of the committee to all grievances and to receive appropriate complaints from the Board of Pharmacy. Mr. Freiman asserted the MPhA Peer Review Committee should be sole Peer Review Committee for pharmacy in Maryland. On motion of Mr. Reznick, seconded by Mr. Rubin, the report was accepted.

Mr. Morgenroth moved that legal counsel be instructed to take appropriate legal action to obtain payment from the state for payments overdue for medicaid bills. Motion seconded. Mr. Seidman moved to table the motion until legal counsel be received, seconded and passed.

Mr. Seidman announced that the comprehensive revision of the Constitution and By-Laws will be acted upon and presented to the Board of Trustees and to members of the House of Delegates.

The Session was adjourned at 12:00 Noon.

June 26, 1974

Third Session

The Session was called to order by President Padussis at 9:15 a.m.

The Memorial Service was then held. The Twenty-Third Psalm was read by past Honorary President H. Nelson Warfield. The necrology was read by Frank Block, member of the Board of Pharmacy and past President of MPhA.

The Memorial Prayer was read by past President Nathan Schwartz.

The Third and final session of the House of Delegates was then called to order by Speaker Friedman.

The Annual Report of the Maryland Board of Pharmacy was presented by Board of Pharmacy member, Frank Block in the absence of Secretary Charles Tregoe. The report will be published in a later issue of *The Maryland Pharmacist*. On motion of Donald Young, duly seconded, the report was accepted. There was discussion of the matter of pharmacists who had been out of practice for more than five years and are seeking reciprocity. Such pharmacists are now required by the Board to pass a practical examination and indicate knowledge of Maryland Pharmacy Law.

Report of legal counsel Joseph S. Kaufman. The report included review on the suit on the state advertising law regarding Sav-a-Lot, the Supreme Court decision on pharmacy ownership involving North Dakota and the 1974 state legislative session. In regard to a suit on the overdue payment of bills particularly those involving temporary identification cards, Mr. Kaufman stated that the state enjoys sovereign immunity and that he advised that administrative remedies be sought. However, individuals can bring suit and MPhA could act on behalf of individuals. The matter of state pharmacy ownership legislation was discussed. Mr. Kaufman also reported on his action regarding third party plans which restrict freedom of choice. He stated that results would be available in the near future, particularly in the Construction Worker's Trust Fund case.

New Business

Speaker Friedman called upon Joseph U. Dorsch, Chairman of Resolutions Committee for a report.

Chairman Dorsch presented the following resolutions with action taken by the House as indicated.

Resolution #1

Whereas, crimes against pharmacies and pharmacists are on the increase, thus causing service to the public to be jeopardized,

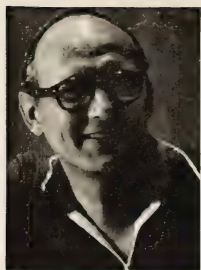
Be it resolved that the Board of Trustees consider offering a reward to be paid to any person or persons providing information leading to the arrest and conviction of anyone responsible for committing a crime against a Maryland Pharmaceutical Association member in good standing.

Resolution was adopted unanimously.

Resolution #2

Whereas, the dedicated efforts of the Traveler's Auxiliary of the Maryland Pharmaceutical Association (TAMPA) and their officers resulted in one of the outstanding state conventions,

Be it resolved that Maryland Pharmaceutical Association hereby expresses its appreciation to TAMPA, and also be it resolved that a special Certificate of Appreciation be presented at a meeting of MPhA to Mr. Frank Watkins, who though no longer associated with our profession, has maintained an interest in pharmacy and did



RAY HECKMAN



DENNIS CRAWFORD



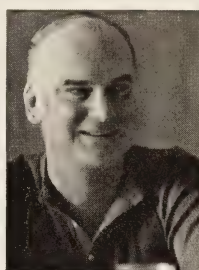
DEAN SULLIVAN



BILL HYSSONG



MIKE GERSHEN



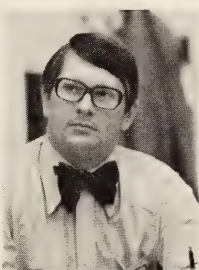
JOHN O'MALLEY



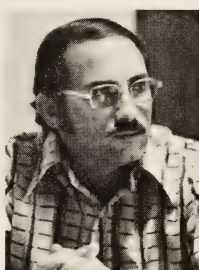
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so much to assure the success of the entertainment and recreation features of the convention.

Resolution was unanimously adopted.

Resolution #3

Whereas, the Ladies Auxiliary of the Maryland Pharmaceutical Association (LAMPAs) and their officers by their support have helped to make the 92nd Annual Convention of the Maryland Pharmaceutical Association one of its most interesting and successful, the Maryland Pharmaceutical Association hereby expresses its appreciation to LAMPAs and its officers.

Resolution was unanimously adopted.

Resolution #5

Whereas, the transmission of prescription orders by telephone as well as in writing, is the sole responsibility of physicians and other legally authorized prescribers, and

Whereas, it is the sole responsibility of pharmacists to personally receive such prescription orders, and

Whereas, these responsibilities are frequently not discharged by both prescribers and pharmacists, who permit ancillary and office personnel and telephone switchboard operators to assume unauthorized professional functions,

Be it resolved by the Maryland Pharmaceutical Association in Convention assembled that MPhA representatives meet with representatives of the State Medical Society to establish guidelines or other voluntary standards or make other appropriate recommendations as to assure implementation of such procedures by prescribers and pharmacists as will properly and professionally serve the health care needs of patients.

Resolution #6

Be it resolved that the MPhA delegates to the American Pharmaceutical Association Convention be instructed to petition to APhA to amend the "Safety Closure" law to permit pharmacists to solicit their patient's preference as to the use of the safety cap or the convention type closures for their prescriptions and in those cases where the conventional type is preferred, a signed statement be kept on file by the pharmacist.

Resolution #7

Whereas, it is imperative from both the professional and economic point of view for pharmacists to be equitably compensated for providing pharmaceutical services, the Maryland Pharmaceutical Association hereby resolves that all pharmaceutical manufacturers be urged to review their methods of compensating pharmacists under sampling programs with the view that pharmacists shall be compensated on the same basis that all patients are charged, which is usually the cost of medication plus a professional pharmaceutical service fee, rather than reimbursement to the pharmacist by providing additional stock of the pharmaceutical product, and

Be it further resolved that MPhA delegates to the American Pharmaceutical Association Convention be in-

structed to secure the adoption of a similar policy on the part of APhA.

Resolution was adopted.

Resolution #8

Whereas, the price structure for pharmaceuticals established by manufacturers vary in price charged to federal, state and county governments as well as to hospitals, community pharmacists and large multi-unit corporate pharmacies,

Be it resolved that the Maryland Pharmaceutical Association support the efforts of the national pharmaceutical associations in securing the adoption of a one price policy by pharmaceutical manufacturers.

The resolution was unanimously adopted.

Resolution #9

Whereas, Radio Station WCAO and Mr. Charles Purcell, its representative have cooperated and assisted Maryland Pharmaceutical Association by providing public service time for more than 15 years for the Maryland Pharmaceutical Association program "Your Best Neighbor," the Maryland Pharmaceutical Association hereby expresses its appreciation to the management of radio station WCAO and to Mr. Charles Purcell.

Resolution unanimously adopted.

In addition, the issue of defining a technician and what pharmaceutical duties may be performed by technicians was referred to the Tripartite Committee. A resolution regarding the publishing of minutes and procedures for delegates was referred to the Board of Trustees. A resolution directed to requiring a minimum percentage above cost as a charge for prescriptions was not presented as a state loss leader law does exist.

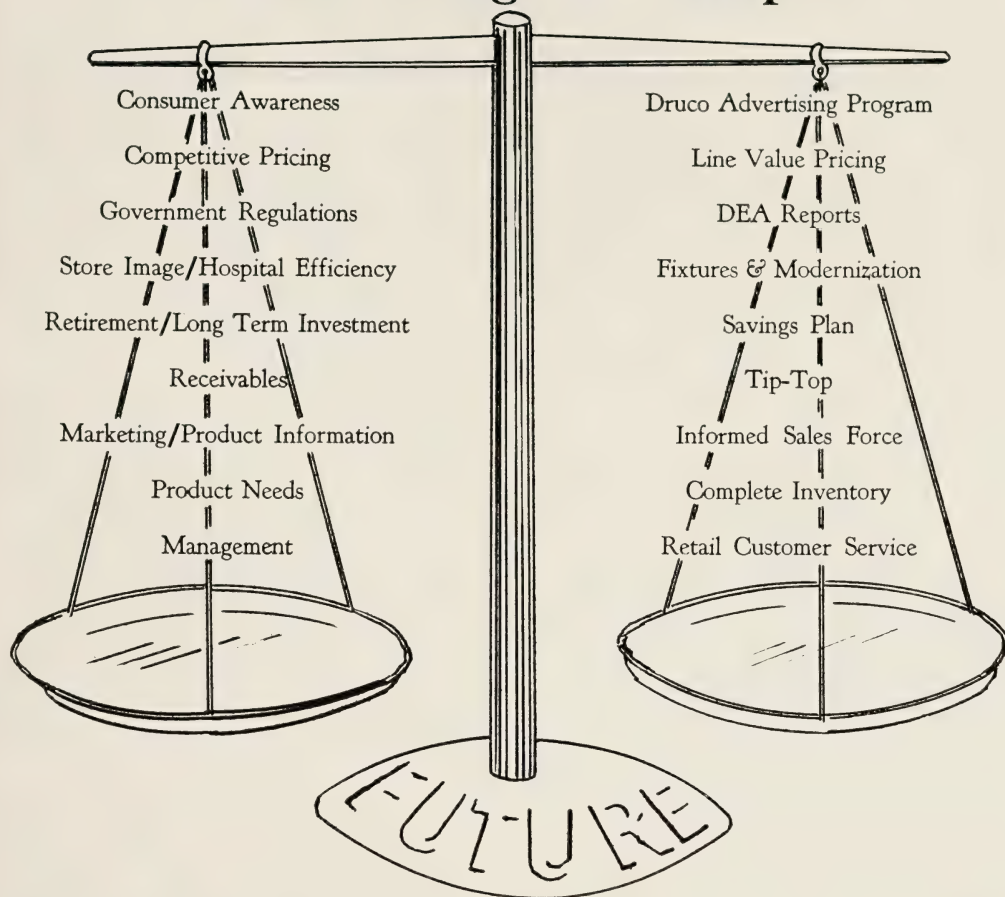
Mr. Schwartz brought up the matter of transfer of prescriptions between pharmacies. On motion of Mr. Lachman, duly seconded, the matter was tabled and referred to the Pharmacy Practices Committee.

Mr. Rubin brought up the matter of a new state health department requirement for placing NDC numbers on Medicaid prescriptions. There was considerable sentiment for the passage of a resolution against implementation of NDC numbers until an equitable adjustment and compensation of pharmacists for Medicaid prescriptions was made. After thorough discussion of the matter, and reference to meetings and conferences that had been held with state officials, it was decided to refer the matter to the Prescription Insurance Program Committee of MPhA.

Surveys by manufacturers regarding drug product selection and generic drugs was brought up. Mr. Lachman moved that all pharmacists be advised not to participate in manufacturer sponsored questionnaires regarding drug product selection and generic drugs unless first reviewed by MPhA and that the other pharmaceutical associations be advised of this recommendation. Motion was passed.

Mr. Rubin moved that the MPhA office make the minutes of the Board of Trustees, Notices of Meetings and actions on motions and resolutions available to the delegates. The motion was seconded and passed.

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Report of the Pharmacy Practices Committee of the House of Delegates, Henry G. Seidman, Chairman. Mr. Seidman outlined the following report:

Item 1—Technicians. What is their role, definition, list of tasks to be delegated, who will educate them and what will their educational requirements be?

The recommendation was for not more than one technician to one pharmacist in community pharmacies. In institutional pharmacies a different ratio is recommended.

Item 2—Patient Medication Records or Profiles to be made mandatory by July 1975.

Item 3—That mandatory continuing education requirements implementation be delayed.

Item 4—That pharmacists be responsible and control the quality of drug products.

Mr. Schwartz made the following motion:

Item 1—That the recommendation for requiring patient record cards be approved. Motion was seconded and passed.

Item 2—That the recommendation for a maximum of one to one technician to pharmacist ratio be approved with the provision that it applied to all licensed pharmacies. The motion was seconded and passed.

Move to endorse the concepts presented regarding technicians and that guidelines should be developed by the committee for review. Seconded and passed. Also moved for freedom of choice by the pharmacist as to the source of purchase of drug products and that the state law requiring disclosure of the name of the actual manufacturer be implemented either by information on the label or package insert.

The issue of insertion of NDC numbers on Medicaid prescriptions was turned over to the Board of Trustees.

Report of Committee of Nominations—Bernard B. Lachman, Chairman

Mr. Lachman presented the following slate of officers as the report of the nominating committee.

For Honorary President 1974-75...Harry L. Schrader
For 1975-76 Mail Ballot Elections

For President Elect Melvin N. Rubin
Irvin Kamenetz

For Vice President Richard D. Parker
James W. Truitt, Jr.

For Treasurer Jerome Mask
Morris Lindenbaum

For vacancy as Trustee for 3 year term...Milton Watkowski
Rudolph Winternitz

For second vacancy as Trustee for 3
year term Robert E. Snyder
Samuel Lichter

Further nominations were requested from the floor.
Mr. Schwartz nominated Ben Owens as additional nomi-

nee for Treasurer. Nomination was seconded. Mr. Rubin moved for the inclusion of three names on the slate for treasurer. Seconded and passed. Mr. Owens requested his name be withdrawn. On the motion of Mr. Schwartz, seconded by Mr. Lubman, the nominations were then approved.

Mr. Lachman then presented the nominations for Speaker of the House 1974-75, Mr. S. Ben Friedman and for Vice Speaker of the House of Delegates, Mr. Irvin Kamenetz. Mr. Morgenroth moved that the nominations be closed and report accepted. Motion was unanimously passed.

Mr. Lachman then presented the nominees for the Board of Pharmacy for the term of Frank Block which expires in May 1975 that is a Baltimore City vacancy, as follows: 1) Robert E. Snyder, 2) Dolores Ichniowski, 3) Charles E. Spigelmire. On motion of Mr. Lubman, seconded by Mr. Rubin, the nominations for the Board of Pharmacy were approved.

Good and Welfare

Mr. Stanley Yaffe urged that committee reports to be presented at the convention should wherever possible be sent out in advance to the delegates.

There was a discussion regarding presentation of resolutions and the desirability to have them sent to the delegates in advance.

Mr. Morgenroth stated that the appreciation of the Association should be expressed to the representatives and manufacturers who are in attendance. Mr. Rubin then asked that the pharmaceutical manufacturers reciprocate by inviting pharmacists to their meetings.

Mr. Lubman, Chairman of the Seminar Trip to Hawaii, announced details of the trip.

Daniel Weber, University of Maryland School of Pharmacy student and representative of the joint APhA/MPHA Student Chapter who had been in attendance, was recognized.

The session of the House of Delegates was adjourned, followed by closing remarks and adjournment of the general session and Convention by President Padussis at 1:00 p.m.

CHANGE OF ADDRESS

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Thank you for your cooperation.

Nathan I. Gruz, Editor
Maryland Pharmacist
650 West Lombard Street
Baltimore, Maryland 21201

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Maryland Pharmaceutical Association

Report of The President

Anthony G. Padussis

1973-74

In my report this year, I will try to cover mainly the actions and decisions of the board of trustees and in order not to be redundant or repetitious, I will leave the details to the various committee reports.

As a continuation of the prior administration, foremost in our minds and activities was to get greater organizational unity in pharmacy in our state. We wanted greater involvement in the operation of our association from pharmacists in all segments of practice and from every part of the state. I feel great personal satisfaction with the achievements we have made in this direction. Emphasis was put on closer working relationship with the Maryland Society of Hospital Pharmacists. Greater efforts were made to strengthen the local pharmaceutical associations and to develop new ones in order to get complete representation throughout the state. Executive director Nathan Gruz and I spent many hours in the late evenings attending various local association meetings. I am delighted to relate the recently organized Upper Bay Pharmaceutical Association. With some nurturing on our part, the pharmacists in Harford and Cecil counties will be represented by a strong viable group — likewise — the Anne Arundel County Pharmaceutical Association has now been developed. Consequently, we can expect some rapid growth in this area. We were successful in encouraging more employee Pharmacists to join our association and to take an active part in its affairs. The membership committee report will show an increase among salaried and hospital pharmacists during the past year.

As is the case every year, a great amount of time was devoted to legislative matters in Annapolis. I feel that even greater effort must be given to legislative affairs in the future. I am certain that we cannot legislate ourselves into a profession; but, when no other way will work, I am equally certain that regulations or laws must be sought which will empower the pharmacist to assume the responsibility that is inherent in the professional role that so many of us speak of. Moreover, we must be constantly vigilant and prepared to oppose many bills which are introduced that are detrimental to the public and our profession.

Again, I am happy to report that our Executive Director Nathan Gruz with the aid of the Legislative chairman Paul Freiman and Mel Rubin, Bernard Lachman, Ben Friedman and others accomplished an enviable record in Annapolis. Despite the limited size and resources of our legislative group, the fact that the news media termed our committee as the "Powerful Drug Lobby in

Annapolis" clearly indicates the effectiveness of our organization.

During the past year a joint peer review committee met with representatives of the Maryland Society of Hospital Pharmacists. The State Department of Health was notified that our committee was ready to proceed. The response indicated a great interest and willingness to work with us in this matter. We feel that this very important committee will be greatly involved with the committee of the Medical and Chirurgical Faculty of Maryland to aid in obtaining the delivery of the best possible health care to the people in our state. Furthermore, in the past year, we were successful in initiating meetings with the State Department of Health in order to establish standards of practice and pharmacy service for the various institutions that provide health care.

In the field of 3rd party payments, our association was very active. Chairman Mel Rubin and our Executive Director attended frequent meetings and corresponded with the various groups to obtain freedom of choice of pharmacy and increases in fees from 3rd party insurance funds. The board of Trustees has carefully studied all the ramifications and has voted that legal action be taken against those who are violating the law requiring free choice of pharmacy. All efforts were made to get an increase in Medicaid fees. After a last minute telegram was sent to Governor Mandel by your president, his reply was that the adverse fiscal impact of the energy crisis would prevent an increase in the Medicaid fee but that he was asking Dr. Neil Solomon to give this matter high priority in his next budget request.

On June 4, 1974, a unanimous North Dakota Supreme Court upheld the state statute which requires pharmacist owner control of North Dakota Pharmacies. The state decision followed the unanimous decree of the U.S. Supreme Court on December 5, 1973. This decision is a great step supporting the right of the states in the interest of public health to require that professional judgments of pharmacists not be controlled by corporate business objectives and lay management. As a result of the Supreme Court ruling, many Maryland Pharmacists have been asking to get similar legislation passed in the State of Maryland. The national organization, namely, COPES, has urged everyone not to take any premature action in this matter until a complete study was made to determine the proper response to the opportunity opened by this Supreme Court decision. The Board of Trustees is watching this matter carefully.

As to the future course that our association takes, I would highly recommend that we not waste our limited resources in many new and different directions. I think priority should be given the projects that we have already established and we should continue to develop and implement those plans that we have already undertaken.

There are some exceptions. Since we are almost certain once again to have to face the advertising-posting problem in Annapolis, I believe the House of Delegates should develop a workable compromise which would satisfy consumer activists while at the same time protect the public and the pharmacists from public health hazards and unfair competitive practices.

A workable plan for mandatory continuing education should be developed. We must begin to discuss more seriously the need for compulsory maintenance and proper utilization of patient medication profiles. Furthermore, we must stress the need to our fellow pharmacists and to the public that today's pharmacist is patient oriented. If we fail to demonstrate this responsibility, the functions presently performed by the greater majority of practitioners will be eliminated or assumed by lesser trained and lesser paid personnel.

Ideally in the long run we must strive toward the ultimate goal wherein the pharmacist will be the drug therapist, consultant and monitor of drug interactions and compliance with the prescribers directions. Today's pharmacy graduates are prepared to assume these roles. Legis-

lation and public relations alone cannot accomplish this goal; but, it can be achieved by our actions in our practices and in the activities of the association.

It has been an honor to serve as your president. I hope that I have accomplished some of the aims and the objectives that I set out in the beginning of the year. In addition, hopefully, I have successfully articulated the actions of the Board of Trustees in implementing the objectives of this association over the past year.

I would like to publicly thank our Executive Director Nathan Gruz for his untiring efforts on behalf of the association. His keen knowledge and grasp of all the problems of pharmacy are exceptional. He was indeed an invaluable aid and source of information to me during this past year.

I extend my thanks to the members of the Board of Trustees and to the chairmen and members of all the committees.

My special thanks to Ben Friedman, Speaker of the House of Delegates; Bernard Lachman, Chairman of the Board of Trustees; Paul Freiman, Chairman of the Legislative Committee; Mel Rubin, Chairman of 3rd Party Plans and Vic Morgenroth and Henry Seidman for their work on Constitution and By-Laws.

To all others who worked with me, my thanks go out for their zeal, their devotion and for a job well done.

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Maryland Pharmaceutical Association

Report of The Executive Director

NATHAN I. GRUZ

June 24, 1974

Mr. President, fellow members of the Maryland Pharmaceutical Association, and friends.

Again, for the thirteenth year it is my privilege to deliver my annual report as Executive Director of the Maryland Pharmaceutical Association.

A review of the activities of the Association and of its Executive Director for the past year indicates involvement in an ever increasing number of matters that demand our attention and action.

It is only possible to go over the highlights and to present a bare outline of all the issues currently facing all of us in pharmacy.

So let us then look at some of the principal issues, activities, and concerns of pharmacists in Maryland.

Much of the detail will be covered by the reports of the officers and committee chairmen, which we will not repeat.

First, pharmacists are concerned about standards of pharmacy practice in various areas of pharmaceutical service—both community and institutional—in its many forms.

This involves standards of pharmacist responsibility. It involves independents, chains, hospitals, nursing homes, extended care facilities, prisons, health centers, HMO's, and so forth.

MPhA is involved with both the State Department of Health and Mental Hygiene and non-governmental groups in developing guidelines and regulations.

As an example, I would like to cite what we have accomplished in the area of physician's assistants. Your Executive Director testified at several public hearings of the Health Department and insisted that there be no possible encroachment on the functions and responsibilities of the pharmacist. As a result, the state regulations now ready for adoption with the approval of the State Medical Society, which we received on June 20th, include the following statement: "Notwithstanding any provisions herein contained, no physician may delegate the duties of a physician to personally prescribe or dispense drugs."

In the cases of proposed state regulations for Pharmacy Services in Health Related Facilities such as nursing homes, we have recommended not only that pharmacies no longer be permitted to be owned by persons with financial interest in such facilities, but that any existing pharmacies be turned over to pharmacists or phased out within two years.

Certainly, we must move on to establish proper standards for all aspects of pharmaceutical service.

Secondly, pharmacists are concerned on the basis of professional and economic survival about third-party health insurance programs, HMO's, and the scope of institutional health care. A great deal of our effort goes into improving the policies of both governmental and non-governmental prescription programs. Our efforts are seeing the phasing out of temporary cards and the recognition of the justification for increased professional fees. Only the pressure of organized pharmacy can bring about fair policies and equitable compensation.

Thirdly, everyone in pharmacy must certainly understand that legislative and governmental officials, particularly on the state level, have almost dictatorial power over our professional practices and economic viability, as well as our lives as citizens. We have, therefore, assigned a top priority in this area, particularly during the session of the state legislation from January to April. In addition, the legislative council meets from April to December. Therefore, our work and vigilance continues throughout the year with legislators, state officials, and leaders of other voluntary groups.

This past year we have overcome great odds to achieve an almost 100% record at the legislature. In fact, we overcame great obstacles to obtain the governor's veto on H.B. 1636 which we had killed in committee, but was unfortunately resurrected behind our backs.

However, more and more legislators, officials, and leaders in the state are contacting us for our reaction or input in matters of health care in general and pharmacy and drugs in particular. We are also hearing more and more from members of the general public.

MPhA and its legal counsel supported the Maryland Board of Pharmacy as amicus in the court proceedings in order to maintain the integrity of our pharmacy act against practices that mislead the public, and demean the profession, all to the detriment of the true public interest.

MPhA supported North Dakota in its appeal to the Supreme Court to preserve its pharmacy ownership law. The Supreme Court spoke for the integrity of the profession of pharmacy by a rare 9 to 0 vote. The North Dakota Supreme Court has now upheld their statute. Together with the MPhA and NARD, we will carefully study the implications of these decisions on the practice of pharmacy in Maryland.

For the coming year, we will have to stop reacting

and exercise initiatives in a well-planned program to further our goals.

Fourthly, in the area of public relations, public health information, and consumer affairs we have expanded our activities and laid the foundation for a comprehensive campaign in the coming year. It is important to note the outstanding program on professional cancer education which was jointly sponsored with the Baltimore County Cancer Society and the School of Pharmacy. We are now involved with some consumer groups. As an example, your Executive Director was invited to address a class in consumer affairs at the College of Notre Dame. This will be continued and broadened.

In order to keep this report as brief as possible I will list some of the other areas of importance for the Association:

- Continuing Education Seminars & Programs
- Tripartite Committee
- Cooperative activities with the Maryland Society of Hospital Pharmacists
- Employee—Pharmacist relations
- Security and Crime against Pharmacies
- Mail Order Prescriptions
- School of Pharmacy matters, such as PEP (Professional Experience Program), Curriculum, and Pharm. D. Programs.

Fifthly, we must devote attention and planning in the organizational sphere. Internally to improve communications, expand membership and increase income so as to provide for the staff necessary to perform all the activities members expect.

Externally, within the state, we would like to increase our assistance to all other pharmacy groups, especially those affiliated with MPhA.

Before closing I would like to do several things.

First, to note with pride the recognition granted some of our leaders: Our President, Anthony Padussis, was appointed to the Baltimore City Mental Health Advisory Committee. Bernard B. Lachman, Chairman of the MPhA Board of Trustees, who was appointed to the key APhA Policy Committee on Public Affairs. Dean Kinnard who has been appointed to the Board of Trustees of the USP and the Executive Committee of the American Association of Colleges of Pharmacy. Past, MPhA President, Victor H. Morgenroth, a past President of ACA and past Vice President of APhA, who serves on the prestigious National Commission to study Pharmacy, which will set guidelines for the future nature of pharmacy practice. He is the representative of Community Pharmacy. Past MPhA President, Donald Fedder, who serves as President of the American Academy of General Practice of Pharmacy of APhA and was appointed to an Advisory Committee of FDA.

Secondly, we are fortunate to have had dedicated leaders during the past year—men who have not hesitated to sacrifice their time and efforts, often at personal expense.

This leads me to mention the critical necessity for organized legislative and political action through MPhA and through PHARMPAC—The Pharmacist's Political Action Committee. Many have given \$100.00—one just heeded the plea of Mel Rubin and doubled his contribution to \$200.00!

In recognition of the standing and influence of pharmacists as citizens in the community, Governor Marvin Mandel has asked me to serve with other leaders to plan and activate a Citizen's committee for his re-election campaign. I think it is important for me to participate and I have accepted.

Pharmacists are essential to an effective health care delivery system. They must be more fully utilized health professionals.

After all isn't it our mission to be responsible for the delivery to the public of pharmaceutical services, to protect the public, and assure the public that we are their advocates for quality health care.

Fellow Pharmacists:

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Institutional Pharmacy Section

Peter P. Lamy, Ph.D., Editor

THE HOSPITAL MEDICATION ERROR DILEMMA

by

BERRY J. MEANS, M.S.
HENRY J. DEREWICZ, M.S.
and
PETER P. LAMY, Ph.D.

An important component of the health care provided by an institution is the administration of medications to the patients. A study (1) conducted at The Johns Hopkins Hospital found the average number of daily doses of medication per patient to be 6.4 on a pediatric medical care unit and 11.3 on an adult medical patient care unit. Riley, *et al.* (2) cited various studies in other hospitals reporting the average number of daily doses per patient ranging from 5.2 to 10.6.

The therapeutic process that brings those doses of medication to the patient is vast, complex and dependent on many persons.

Potential for Errors in the Distribution of Medications

Since there are numerous people in the hospital that are intimately involved in distributing medications to the patient, there are numerous places where the system may fail. Human error may be involved in the procurement of medications, either too much or not enough of a drug might be ordered. The wrong drug might be ordered or the manufacturer might ship the wrong drug (due to mistakes on the hospital's purchase order or due to mistakes at the manufacturer level in filling the orders).

There is also potential for errors in the therapeutic part of the medication process. Fogg (3) discussed some of these potential sources and listed several incidents as examples of the types of errors that can occur. Francke (4), in an editorial, commented on the interdisciplinary nature of medication errors. Both Fogg (3) and Francke (4) mention automation as a possible means to reduce medication errors. Anderson (5) points out that the phy-

sician's contribution to medication errors has virtually been ignored. He studied a number of physician's drug orders and classified them into various categories such as incorrect nomenclature, confusing oral orders, and illegibly written orders, giving examples of each.

Improper transcription of the physician's order can also be responsible for medication errors.

Mistakes can also occur in the dispensing of medications from the pharmacy. Wolfert and Stevens (6) report on a study of inpatient pharmacy dispensing errors. The authors found 134 errors out of a possible 153,693 instances in a one year period. The most common type of error (41 percent) was dispensing the wrong drug container labeled correctly as to the contents. Other common errors (36 percent) were dispensing the correct drug in either the wrong strength or wrong dosage form.

In a study of medication errors at the University of Kentucky Hospital, Hynniman, *et al.* (7) also found instances of pharmacy personnel placing wrong medications into the individual bins of the medication cart.

Previous studies on medication errors indicate that there are many possibilities of errors in the administration of medications to the patient (8-12). Among the potential causes for errors in the administration of medications are: incorrect preparation of the medication ticket, incorrect drug selection or dose measurement, and selection of the wrong patient to receive a medication. All of these errors are the direct result of a specific act. There are also errors that result from inaction. Although some errors of this type are more difficult to define, they may be as important as errors resulting from specific acts.

When a patient does not receive a dose of a medication that has been ordered, it is clear that an error has occurred. There are cases, however, when the failure to ask a question or clarify an order could result in an error. The pharmacist, for example, who fills an order for a medication prescribed in a below average dose and fails to question the physician or review the patient's chart, may be in error. The pharmacist who fails to bring a particular drug interaction to the physician's attention, may also be considered to have erred. The physician who fails to monitor a patient's potassium level while the patient receives potassium depleting drugs or who fails to order

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Abstracted from a thesis submitted to the Graduate School of the University of Maryland in partial fulfillment of the requirements for the Master of Science Degree, 1973.

an indicated treatment regimen for a patient may be considered to have been in error. Finally, the nurse who fails to recognize and check an ambiguous order and administers the wrong medication on an incorrect assumption would be in error as would a nurse who failed to question the pharmacist about a deteriorated dose of medication that had an unusual appearance.

The Definition of a Medication Error

A broad definition of medication errors could encompass all of the events previously discussed. Many of these potential error situations are a matter of judgement and difficult to define. For example, how would one decide at what point the appearance of a dosage form is unusual enough to warrant questioning. Furthermore, the role of the pharmacist in clinical functions has not yet been sufficiently defined to determine whether or not an error was committed by failure to bring certain questions of therapeutic indication or interaction to the physician. Medication errors can be divided into two broad categories, errors of commission and errors of omission.

Errors of Omission

Errors of omission are those errors that occur because some specific act was not performed, i.e., the pharmacist did not consult with the physician about an unusual dose, the physician did not order an appropriate laboratory test, or the nurse did not administer a scheduled dose of a medication. Traditionally, in studying medication errors, omissions have been counted as medication errors only when a patient did not receive a regularly scheduled dose of a medication. While at the present time, errors of omission will have to be limited to this traditional concept, it is expected that in the future a broader concept of omission errors will be adapted.

Errors of Commission

Errors of commission are caused by a specific act, such as giving the wrong patient a medication or giving the wrong medication to the correct patient. Usually commission errors are subdivided into several categories which include: wrong doses, extra doses, unordered drugs, wrong dosage forms, wrong routes of administration, and administering a medication at the wrong time.

Wrong doses are those that are either higher or lower than that prescribed. Some possible causes of dose errors are improper measurements, as in the case of oral liquids and injectables, incorrect dose calculations, as in the case of a dry powder for injection that needs to be reconstituted prior to administration, or dispensing the incorrect strength of a drug in a container labeled with the strength originally ordered.

Extra doses are those that a patient receives in excess of the prescribed number of doses in a given period of time or continues to receive after a medication order has been discontinued. These errors can be from failure to chart the last dose of a medication or from failure to check the physician's orders.

Dosage form errors are those resulting from administering the correct drug in the correct dose by the correct route but in a dosage form different from that specified by the physician. An example of a dosage form error would be the administration of a prolonged action dosage form when it was not specified. Dosage form errors can be caused by incorrect assumptions on the part of the nurse or pharmacist.

Route of administration errors result from administering the correct drug in the correct dose to the designated patient by the wrong route. Examples of route of administration errors would be the administration of penicillin G tablets orally when the penicillin was intended to be administered intravenously or the administration of an eye drop into each eye when the medication was intended for only one. Again, medications may be administered by the wrong route due to incomplete physician orders or incorrect assumptions by nurse or pharmacist.

Time errors are those resulting from a medication being administered at other than the scheduled time, within specified limits. There is usually a predetermined maximum deviation permitted and doses administered before or after the scheduled time plus or minus the permitted deviation are considered to have been administered in error. For example, an antibiotic is scheduled to be administered at 04:00, 10:00, 16:00, and 22:00 daily. If the maximum allowable deviation in administration time is 60 minutes, then the 04:00 dose would be considered to have been administered at the wrong time if it were administered before 03:00 or after 05:00.

The Consequences of Medication Errors

The consequences of medication errors may be examined by considering the immediate effect on the patient. For example, consider the patient who receives a dose of penicillin intended for the patient in the next bed. Quite likely the administration of this single unordered dose of a medication will be of little, if any, consequence to the patient who received it. If the patient has an allergy to penicillin, however, the consequences could be very serious. In this case one must also consider the patient for whom the dose was intended. The consequences of that patient not receiving a scheduled dose of the antibiotic would probably depend on several factors including the sensitivity of the causative organism, the severity of the infection, and the dose and frequency of administration of the penicillin. In another example, the consequences of a patient receiving one half of the prescribed dose of an antihypertensive would be expected to be minimal since the blood pressure of hospitalized patients is frequently monitored.

The consequences of medication errors must also be examined by considering secondary effects of the error. Consider the previous patient who may have incorrectly received the antihypertensive medication in one-half of the prescribed dose for several doses. In the meantime, the physician not knowing of the error, could double the dose of the medication. If that new order is implemented, the patient will actually receive four times the previous dose



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which may be excessive. The patient who receives an extra dose of potassium chloride could be considered in as much danger as if he had eaten two bananas, but extra doses of potassium over a period of time could be more serious.

The consequences of administering medications at the wrong time must also be considered. One would probably find little objection to a daily dose of a vitamin or long acting drug being administered somewhat early or late. However, there may be potential problems resulting from administering medications at times other than those of the pre-established schedule.

The absorption of certain drugs is known to be affected by food or other drugs. Tetracycline is a classic example of a drug whose absorption is decreased when administered with dairy products or bi and tri-valent cations common in preparations such as antacids. The physician who is aware of this interaction but who still wants a patient to receive both drugs, may purposely schedule the tetracycline and antacid to be given at separate times, i.e., tetracycline "q 6 h" at 04:00, 10:00, 16:00, and 22:00 daily and the antacid "q 6 h" at 06:00, 12:00, 18:00, and 24:00 daily. If the drugs are administered at the same time the physician may unknowingly be thwarted in the attempt to avoid the interaction and the patient would not receive full benefit of the medication.

The Significance of Medication Errors

The medical significance refers to the impact of the error on the patient's health. Quite possibly, the error may temporarily or permanently disable the patient or even decrease the patient's chance of survival.

Errors can also be examined from the standpoint of economic significance. The medication error might prolong the patient's stay in the hospital or might necessitate drugs or treatment that would not otherwise be required. Whether or not the medication error results in litigation or a settlement for damages to the patient and to what extent medication errors influence the premiums the hospital pays for liability insurance would also be factors that should be included in considering the economic significance of medication errors.

The social significance of medication errors involves the examination of factors such as increased discomfort to the patient and increased anxiety in the patient's family. If medical care were denied to a patient due to non-availability, then any medication error contributing to the non-availability could be considered to be socially significant.

The significance of medication errors is extremely difficult to quantitate. Present methodology does not permit the determination of whether or not the chances for survival were increased or decreased in a patient who survived a medication error. It would also be difficult to determine to what extent, if any, a medication error contributed to the death of a patient.

Economic issues are no less complicated. For example, efforts to determine how much of a given hos-

pital's liability insurance was attributable to medication errors were unsuccessful. The hospital's insurance carrier does not base any part of the liability insurance premiums directly on the number of medication errors. Furthermore, hospital legal representatives indicate that medication errors account for a relatively small part of the hospital's malpractice litigation (13).

The social significance of medication errors, in all probability would be just as difficult to measure due to the subjectivity of discomfort and anxiety.

History of Concern With Medication Errors

Awareness of medication errors and concern for their clinical consequences date back many years. As early as 1939, errors in medications were discussed in the literature (14-16). It was thought that only rarely might a medication error be of serious consequence.

Initial studies focused on the incidence of medication errors, and were based on hospital accident or incident reports and/or voluntary anonymous reports.

Later studies improved investigational techniques and focused more on the causes and prevention of medication errors. Table I summarizes the results of various literature reports of studies on medication errors.

Divergence in Results of Studies on Medication Errors

The first reports on medication errors were derived from data on incident reports. Medication errors were listed as a specific number per unit time or as a specific number per number of incidence reports (17,19,20,21).

Later studies (7-12, 21-24) reported the frequency of medication errors as a rate based on a specific number of medication errors per specified number of doses administered. Table I shows the frequency of medication errors in the various studies to range from a low of 0.64 percent to a high of 20.6 percent. The data shows several differences in the various studies which would account for the divergence in results. Among these differences are the type of hospital, the type of medication distribution system studied and the investigational technique utilized. Differences in the definition of a medication error and study methodology can also create differences in resulting medication error rates.

Differences in the Definition of Medication Errors

The definition of a medication error will naturally affect the number and types of errors that are detected. For example, Barker and McConnell (21) considered any dose varying by five percent from the correct dose to be a wrong dose. Later, Barker (23) considered a wrong dose to be any dose above or below the correct dose by 17 percent or more. Schultz *et al.*, (24) applied more stringent parameters, and did not permit any deviation at all. Tester (10), at the University of Iowa, classified wrong doses as discrepancies, rather than errors, and therefore wrong doses are usually not included in casual references to the results as indicated by percent of medication errors.

TABLE I
SOME MEDICATION ERROR STUDIES

<u>Hospital Type</u>	<u>Medication Distribution System</u>	<u>Investigational Technique</u>	<u>Medication Errors^a</u>			<u>Refer- ence</u>
			<u>Percent Commission</u>	<u>Percent Omission</u>	<u>Total</u>	
California Hospital Association	-	incident reports	- 96 ^b	-	-	17
-	-		360 ^c	-	-	18
-	-	incident reports	4 ^d	-	-	19
large, private, teaching	multi-dose	incident report anonymous report	147 ^e	31 ^e	-	20
University (Florida)	multi-dose	incident report	23 ^f	12 ^f	-	21
	multi-dose	anonymous report	5 ^g	1 ^g	-	
	multi-dose	disguised observer	8.10	5.80	13.90	
University (Arkansas)	multi-dose	disguised observer	8.20	6.20	14.40	22
	unit-dose	disguised observer	1.50	2.70	4.20	
acute general (London)	multi-dose	comparison of orders and charting	0.17	0.92	1.09	8
general	multi-dose	disguised observer	4.50	1.90	5.40	9
University (Arkansas)	multi-dose	disguised observer	8.80	4.50	13.30	23
	unit-dose	disguised observer	1.20	0.53	1.73	
University (Iowa)	multi-dose	observational	4.60	3.14	7.74	10
University (London, Ontario)	multi-dose	comparison of orders and charting	0.65	1.23 ^h	1.88	12
acute, general (London)	multi-dose	observational	7.19	7.19	14.38	11
	variation 1	observational	5.15	3.90	9.05	
	variation 2	observational	1.59	0.52	2.11	
	variation 3	observational	2.84	1.13	3.97	
	variation 4	observational	1.57	1.57	3.14	
University (Kentucky)	unit-dose	observational	0.80	2.70	3.50	7
Community A	multi-dose	observational	5.50	2.80	8.30	
Community B	multi-dose	observational	1.70	8.20	9.90	
University C	multi-dose	observational	5.10	6.40	11.50	
University D	multi-dose	observational	11.50	9.10	20.60	
University (Ohio State)	multi-dose	disguised observer	3.19	2.14	5.33	24
	unit-dose	disguised observer	0.55	0.09	0.64	

a. wrong time errors not considered

b. number of medication errors out of 2418 incident reports in 1954

The authors state that each error could have been fatal and that a large number were due to the improper administration of blood and blood products.

c. the number of commission type medication errors over a 12 month period

d. number of medication errors out of 128 incident reports over a seven month period.

e. number of medication errors for a seven month period (138 of the errors were from anonymous reports and 35 from incident reports - this includes 35 "near errors")

f. the number of medication errors based on incident reports over a 12 month period

g. the number of medication errors based on voluntary anonymous reports over a seven month period

h. the percentage is based on the total number of "drug days"

tions on a patient care unit could take a considerable amount of the nurse's time during which the recently written discontinuance order would not be implemented. While one might speculate that in most instances one more dose of a given medication will cause a patient no harm, there may be instances when it would be important to stop a medication as soon as possible. These situations have to be considered when setting up the criteria for determining the allowable time between the discontinuance of an order and its implementation, after which an extra dose would be counted as an error. The shorter the permissible time lag, the higher the number of extra dose errors that would be expected. It is not uncommon to find medication orders where a physician has entered the date but failed to note the time it was written. When there is a question of whether or not an extra dose was administered in cases such as this, it must be assumed that the order could have been written up to 24:00 on the date of the order and therefore, extra doses may not be charged to that order until after midnight of the day in which the order was dated. The extent to which physicians enter the time on the medication orders may also influence the number of extra dose errors that are reported.

Unordered drug type medication errors are committed when a patient receives a drug for which there is no written order. One possible explanation for variations in the incidence of this type of error from institution to institution may be attributed to verbal orders. It is possible for a physician to give the nurse a verbal order and then fail to write an order for the medication. If the nurse was observed administering this medication to a patient, an unordered drug error would be detected. A given hospital's policy on verbal orders might affect the number of unordered drug errors that are reported.

The number of wrong dosage form errors will also depend on the definition and criteria for medication errors. For instance, whether or not one considers it an error to dispense a prolonged action dosage form of a drug when that form is not specified may affect the number of medication errors reported. In some institutions a nurse is given the prerogative to change medications from the solid oral dosage form to the liquid oral dosage form for ease of administration to the patient. In other institutions that might be considered an error.

Differences in Methodology

The major difference in the various studies on medication errors is the investigational technique. In the studies presented in Table I, investigational techniques were of four types, i.e., incident or accident reports, voluntary anonymous reports, medication administration charts, and observational. Prior to 1960, reports of medication errors were invariably based on incident or anonymous report forms. Reports of medication errors based on this investigational technique range from four medications given in error over a seven month period up to 360 medications given in error over a 12 month period.

Barker and McConnell (21) compared the effectiveness of incident reports, anonymous error-in-medication

reports and the disguised observer technique. The disguised observer technique was far superior to the other two methods. Extrapolating the errors observed during the study period to the entire year, 51,200 errors were thought to have occurred. On the other hand, during that period, only 36 errors were reported by incident reports. Further analysis of incident reports, anonymous error-in-medication reports, and questionnaires filled out by some nurses in the study hospital indicated that apparently only 91 errors (reported and unreported) had taken place in that hospital in the year of the study. These results clearly show that incident reports and anonymous reports do not even approximate the apparent occurrence of medication errors. A limitation to these reports for determining frequency of errors is that only known errors may be reported.

Another investigational technique is the comparison of the nurse's charting of doses administered with the physician's drug orders. Yet earlier studies by Barker (21) indicate that nurses are unaware of a majority of medication errors. The nurses' charting reflects only what the nurse perceives to have happened and not necessarily what actually happened. Even assuming 100 percent accurate charting, this investigational technique would still not detect medication errors caused by the administration of a medication to the wrong patient, the improper preparation or measurement of a dose, or the selection of the wrong medication for a patient. This is demonstrated by the results of the studies using this technique (Table I) which show medication error rates considerably lower than the medication error rates detected in other studies of the same type of medication distribution system, which used observational techniques.

The selection of the patient care unit to be studied may have an influence on the study outcome. A pediatric unit might be expected to use a larger proportion of oral liquids than does an adult patient care unit (1). If oral liquid medications are more frequently involved in dosage errors, as one study indicates (9), this might tend to inflate the error rate extrapolating study results to the entire hospital. If, on the other hand, the number of medications administered to patients on a patient care unit is related to medication errors, patient care units with different patient-nurse ratios or differences in average doses per patient per day might be expected to show different medication error rates.

The time of the year a study is conducted might also influence the number of medication errors observed to take place. Seasonal differences have a direct impact on patient census, and an increased workload may be associated with an increase in certain types of medication errors (9). Another temporal factor in the study of medication errors that may influence the outcome is that of the physician's experience. Teaching institutions frequently change house staffs, usually on a yearly basis, every July. Since much of what the physician learns about writing medication orders takes place during the hospital training experience, it would seem reasonable to assume that the physician's contribution to medication errors would decrease throughout the training period.

Multi-dose and unit-dose are two concepts of medication distribution systems. Multi-dose medication distribution systems are those in which multiple doses of various medications are available on the patient care unit. Each individual patient's dose is selected and measured or counted out by the nurse prior to administration. Unit-dose medication distribution systems are those in which only those doses of medications that will be required by the patient within a very limited time period are available on the patient care unit. Furthermore, the doses of medication are designated for a particular patient and are so labeled. They are selected and measured and prepared in the pharmacy prior to being sent to the patient care unit.

The divergence in the medication error rates of the various studies can also be attributed to differences in the type of medication distribution system studied. Studies involving multi-dose medication distribution systems tend to show a higher error rate (1.09 to 20.6 percent) than those studies involving unit-dose medication distribution systems (0.64 to 5.89 percent). Either of the two systems can be implemented using numerous variations which may account for some of the divergence in reported results within each system.

Examples of variations in multi-dose systems are the floor stock and prescription order types. In the floor stock system, the medications are maintained on the patient care unit in stock bottles or in smaller containers prepackaged in the pharmacy. In the prescription order system, each patient has a designated supply of those medications that have been ordered. In preparing the doses of medications for administration under the prescription order type system, the nurse selects medications from those designated for each patient.

The possible variations on unit-dose distribution are numerous. In a centralized unit-dose medication distribution system, all of the doses for the entire hospital are prepared in one central pharmacy, while in a decentralized unit-dose medication distribution system, the doses could be prepared in decentralized patient care pharmacies each located in the patient care area that it serves. The period for which individual doses are supplied for each patient can vary from one to 24 hours. Most hospitals supply doses for six, eight, or 12 hour periods. Several hospitals operate pharmacy coordinated, unit-dose dispensing and drug administration systems. In this system the pharmacy is responsible for both the preparation and the administration of medications.

The divergence in the results of the medication error studies presented in Table I are most likely partially due to a combination of these differences.

Another dimension to unit-dose medication distribution has been brought about by the computer. The Johns Hopkins Hospital unit-dose system previously described by Derewicz and Zellers (25) and further studied by Riley *et al.* (2) and Arrington *et al.* (1), utilizes an on-line computer for processing information on each patient's medication regimen. One of the objectives of the implementation of this system was to produce a safer system

through the reduction of medication errors. The computer might also be utilized for automatic charging, for inventory control, and for detecting drug interactions, to name a few. However, it is also possible that the computer would increase the potential for medication errors. Problems with computerized billing, for example, are all too well known. Thus, it could not be assumed that the application of the computer to a unit-dose medication system could not adversely affect the medication error rate. However, a recent study (26) of The Johns Hopkins Hospital's unit-dose drug distribution system demonstrated error rates comparable to those for other unit-dose distribution systems.

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Manufacturer Changes Policy to Cash Reimbursement on Sample Program

A major pharmaceutical manufacturer has decided to reimburse pharmacists with cash instead of inventory for participating in its complimentary prescription program. The policy change by Parke-Davis supports a long-established APhA policy that pharmacists be reimbursed in cash rather than inventory for dispensing services.

Illinois Association Reaffirms APhA Affiliation

The Illinois Pharmaceutical Association has voted overwhelmingly to reject a petition to disaffiliate with the American Pharmaceutical Association. The final results in the mail ballot showed 675 votes *against* disaffiliation and 372 for.

The petition, which would have eliminated the IPhA constitutional requirement of APhA membership, needed a two-thirds vote of approval for passage.

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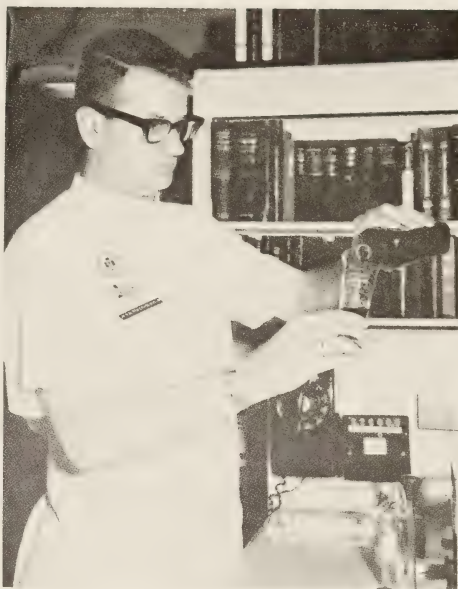
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Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of September:

New Pharmacies

Garrett County Memorial Hospital—Pharmacy, Irvin Feld, Chairman; 251 North Fourth Street, Oakland, Maryland 21550.

Calvert Memorial Hospital—Pharmacy, Joseph Showalter, President; Prince Frederick, Maryland 20678.

Mount Wilson Center—Pharmacy, Louis J. Kurland, Pharmacist; Mount Wilson Lane, Mount Wilson, Maryland 21112.

Bi-Lo Drugs, Irwin S. Barshack; Golden Ring Mall G-5, Baltimore, Maryland 21237.

Eckerd's Northeast, Inc. No. 722, Jack M. Eckerd, President; US Route 40 and Md. Route 272, Northeast, Maryland 21901.

Changes of Ownership, Address, Etc.

Marlow Heights Prescription Center, Theodore K. Twigg (Change of ownership); 3611 Branch Avenue, Marlow Heights, Maryland 20031.

No Longer Operating As Pharmacies

Rostov Prescription Center, Samuel J. Rostov; 347 East 22nd Street, Baltimore, Maryland 21218.

Ford's Frostburg Pharmacy, Inc., Clarence L. Sandene, President; 11 West Main Street, Frostburg, Maryland 21532.

Norris' Pharmacy, Earl M. Norris; 4706 Liberty Heights Avenue, Baltimore, Maryland 21207.

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University of Maryland School of Pharmacy Alumni Association

The third annual oyster roast sponsored by the University of Maryland School of Pharmacy Alumni Association for the benefit of the F. S. Balassone Memorial Lecture Fund will be held on February 2, 1975 at Overlea Hall, 6809 Bel Air Road, Baltimore.

Tickets for this popular event should be obtained in advance as there were many who were disappointed last year because they waited too long to get tickets. This year's affair will include music and door prizes; beer and set-ups from 1:00 to 6:00 p.m. and buffet from 1:00 to 5:00 p.m.

An excellent menu is planned featuring raw oysters, cherry stone clams on the half shell, oyster stew with crackers, oyster fritters, chef-carved top round of beef cut to order—well, medium and rare, barbequed spare ribs, Maryland fried chicken, potato salad, gourmet cheese board with fancy crackers, corned beef, crispy salad bar, assorted relishes, fresh country sausage in mushroom sauce, rolls, bread and butter, coffee, cream, sugar and assorted sweets.

Tickets are \$8.50 per person and may be obtained from Bernard Macek, 4705 Kenwood Avenue, Baltimore, Maryland 21206. Checks should be made payable to the University of Maryland Pharmacy Alumni Association. For more information call Bernard Macek at 661-6752, Leon Weiner at 486-4231 or Nelson Warfield at 486-5415.

A.Z.O. News

Kappa Chapter of the Alpha Zeta Omega Fraternity met on November 13 at the Suburban House Restaurant for a general business meeting. A Dinner Theatre Party was scheduled for December 15 at Oregon Ridge Dinner Theatre.

Obituaries . . .

David Peskin

David Peskin, 64, who was registered in Maryland by reciprocity in 1948, died on October 26.

George McCall

George McCall, 71, a 1925 graduate of the University of Maryland School of Pharmacy, died on November 1.

Harry Schwartz

Harry Schwartz, 67, died on October 27. He graduated from the University of Maryland School of Pharmacy in 1926.

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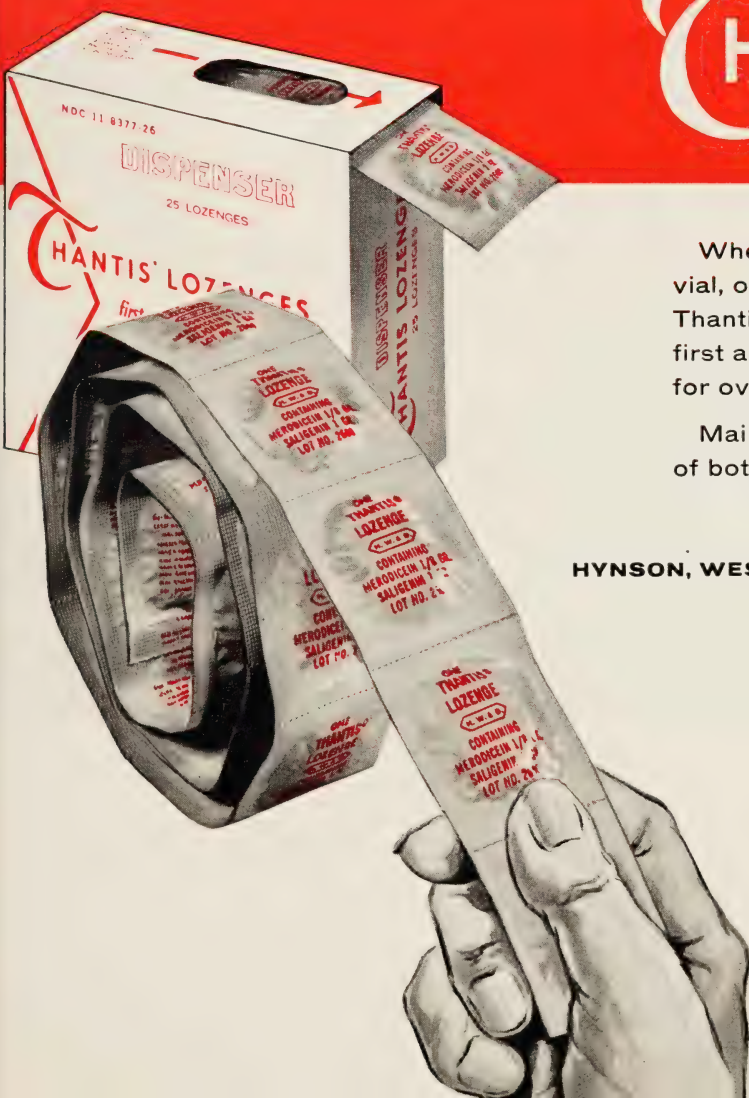
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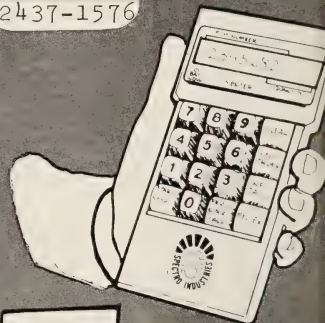
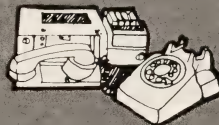
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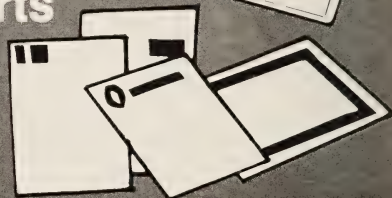
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Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not

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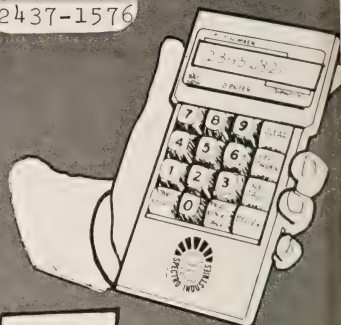
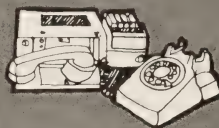
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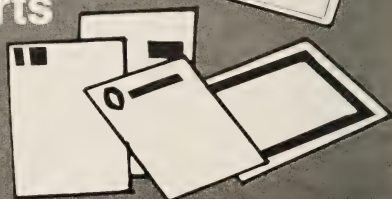
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Editorial . . .

"The Duty To Warn"

Among the "hot" issues under current discussion by pharmacists is the matter of continuing competence. A related subject on which pharmacists appear to be vigorously divided is the question of the pharmacist's "duty to warn" the patient concerning drug interactions, known side-effects, etc. Many pharmacists believe their sole obligation to the patient is to dispense the drug prescribed by the physician. Other pharmacists, many lawyers, and recently two juries disagree.

In one case, a 40-year old female patient suffering from a disease which caused patches of skin depigmentation consulted a California physician after moving to that state. She had previously been taking a medication for the condition but had stopped when a dermatologist had described to her side-effects of the drug.

The physician prescribed methoxsalen, a topical preparation which the manufacturer's labeling warned should be applied only by a physician, and should not be dispensed for home use. The labeling also included a warning that maximum sun exposure after application of the drug was one minute.

The pharmacist placed his label over the manufacturer's label and did not provide the package insert to the patient.

The patient applied the preparation and subsequently spent ten minutes (ten times the warning maximum) exposed to the sun. She suffered first and second degree burns where the preparation had been applied. In addition, there was testimony that the affected skin areas might not be repigmented and that the patient might also have greater susceptibility to skin cancer in those areas. The patient filed suit against the drug manufacturer, the physician, and the pharmacist.

The physician testified that the labeling warnings would not have kept him from prescribing the drug. Expert testimony on his behalf, maintained that the physician had not violated the community standard of care in prescribing the drug if he had informed the patient about the maximum exposure requirement. The physician's expert witness also testified that he would not object to supplying a package insert to the patient.

The pharmacist argued in his defense that it was customary for pharmacists not to provide package inserts to patients and also argued that he was not licensed nor trained to advise patients as to side-effects or to be knowledgeable or inform the patient about package insert information. On his behalf, the pharmacist obtained the testimony of a county pharmaceutical association officer who testified that the pharmacist had performed in accordance with acceptable pharmacy standards.

The jury returned a verdict in favor of the patient against the physician and the pharmacist in the amount of \$7,750 based on the failure of each to provide proper warnings to the patient concerning the known side-effects

and dangers of the preparation. The case against the drug manufacturer was dismissed on the ground the product labeling carried appropriate warnings.

In a similar case involving a suit against a manufacturer, physician, and pharmacist, plaintiff received a settlement of \$350,000 with all three defendants contributing.

The patient had been using methysergide for over two years for a form of migraine headache. Allegedly as a result of using the drug, the patient experienced endocardial fibrosis requiring open heart surgery. The basis of the suit was the failure of the three defendants to provide appropriate warnings regarding the fibrotic side-effect. Specifically, the pharmacist was alleged to have failed to call to the attention of the prescribing physician this side-effect of which he was aware.

In this situation, in an unusual twist, the alleged negligence was focused on the failure to warn the prescriber rather than the patient.

These cases, decided in March and May, 1974, are others in a line of cases which hold that it is the responsibility of the pharmacist to provide adequate warnings regarding prescription drugs they are dispensing to patients. It is not unreasonable to expect that cases adopting this viewpoint will increase.

—From *Washington Spotlight For Pharmacists*
—furnished by APhA Legal Division

PHARMACY CALENDAR 1975

February 16 (Sunday)—Continuing Education Program —"Third Party Programs and Health Care," Friendship International Hotel.

March 16 (Sunday)—University of Maryland Pharmacy Alumni Association Dinner Meeting, Mercantile Club, Greenspring Avenue, Baltimore, Guest Speaker—Dr. Neil Solomon.

March 20 (Thursday) — Fifteenth Annual Robert L. Swain Pharmacy Seminar — "Patient Medication Record Systems", Quality Inn, York Road, Baltimore, Maryland.

April 19-24—American Pharmaceutical Association Annual Convention, San Francisco Hilton, San Francisco, California.

April 30—May 2—Chirurgical Faculty of the State of Maryland (Med Chi) Annual Meeting.

May 27 (Tuesday)—University of Maryland School of Pharmacy Alumni Association Annual Alumni Banquet, Eudowood Gardens.

June 6-8—Tenth Annual Hospital Pharmacy Seminar, Maryland Society of Hospital Pharmacists, Sheraton Fontainebleau, Ocean City, Maryland.

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Annual Report of the Maryland Board of Pharmacy

1973

1974

In compliance with the provisions as set forth in Section 258 of Article 43 of the Annotated Code of Maryland, this report is submitted to the Honorable Marvin Mandel, Governor of Maryland and to the Maryland Pharmaceutical Association. This is the seventy-second report to the Governor of the State and the sixty-second to the Association. The report covers the activities of the Maryland Board of Pharmacy for the fiscal year ending June 30, 1974. This report is also being submitted to the Secretary of Health and Mental Hygiene, the McKeldin Library of the University of Maryland, the Enoch Pratt Free Library, the Department of Legislative Reference, the Hall of Records and the State Library.

Personnel

During the year the Board held sixteen meetings, five of which were held at the School of Pharmacy of the University of Maryland, for the purpose of conducting examinations for registration of pharmacists.

At the meeting of the Board on May 30, 1973, the Board reorganized and elected Mr. Morris R. Yaffe, President, Mr. Charles H. Tregoe, Secretary-Treasurer and Mr. Simon Solomon, Honorary President of the Maryland Board of Pharmacy. The other members of the Board are: Mr. Frank Block, Mr. Ralph T. Quarles and Mr. I. E. Kerpelman. The Board will convene in July of 1974 to elect officers for the 1975 fiscal year.

Examination

The Board conducted two examinations for registration of pharmacists during the fiscal year. They were held at the School of Pharmacy of the University of Maryland on November 29 and 30, 1973 and on June 19, 20 and 21, 1974.

There were twenty-five applicants for the full Board in November. Twenty-three passed both the theoretical and practical portions of the examination and were subsequently registered. Two failed the examination.

Having previously passed the theoretical portion of the examination, fourteen candidates took the practical examination in November. All of these candidates passed and were subsequently registered.

Four applicants took only the theoretical portion of the examination. All of these applicants passed this portion of the examination and will take the practical examination upon completion of practical experience required.

Two applicants took only the practical portion of the examination, as they did not have the required experience for reciprocity. These applicants passed and were subsequently licensed by reciprocity in Maryland.

In June, 73 applicants took the full Board examination. Seventy passed both the theoretical and practical portion of the examination and were subsequently registered. Three failed this examination.

Having previously passed the theoretical portion of the examination, four applicants took the practical examination. All of these applicants passed this portion of the examination, and were subsequently registered.

Twenty-nine applicants took only the theoretical portion of the examination as they did not have the required experience to take the full Board. Of these twenty-three passed and six failed this portion of the examination.

Two applicants took only the practical portion of the examination, as they did not have the required experience for reciprocity.

The Standard Examination of the National Association of Boards of Pharmacy was given, which consisted of the following subjects:

Chemistry
Pharmacy
Mathematics
Pharmacology
Practical Pharmacy

A portion of the examination was given on Jurisprudence which was compiled by a member of the Board.

Record of Examinations He'd

November 29 and 30, 1973

Applicants	Passed	Withheld	Failed
43	37	4	2

June 19, 20 and 21, 1974

Applicants	Passed	Withheld	Failed
106	74	23	9

Total Number Examined for Registration as Pharmacists

Applicants	Passed	Withheld	Failed
149	111	27	11



RAY HECKMAN



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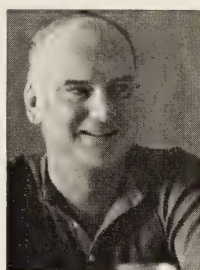
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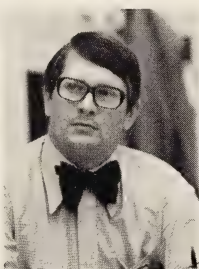
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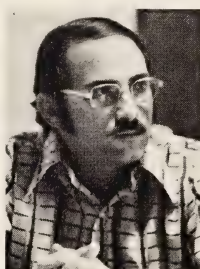
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The following table shows the number of pharmacists who were registered by examination during the past ten years:

Year	Number of Pharmacists
1964-1965	11
1965-1966	64
1966-1967	58
1967-1968	41
1968-1969	60
1969-1970	93
1970-1971	112
1971-1972	133
1972-1973	96
1973-1974	111

As in the past many pharmacists applied for reciprocal registration in Maryland in order to accept positions with their employers who are opening stores in Maryland.

Those applicants who did not meet our requirements concerning practical experience prior to or after registration were advised that they must take our practical examination in order to verify their qualifications.

In all cases an applicant for reciprocal registration must appear for a personal interview. The entire Board must act on whether or not to grant registration to such applicants, who must sign an agreement to comply with Maryland's laws pertaining to drugs and pharmacy.

The following table shows those granted registration by reciprocity thus far during the 1974 Fiscal Year:

Registered By Reciprocity

Name	Certificate Number	Dated	State
Alvin H. Burwell	7835	July 11, 1973	Virginia
Joyce G. Gaw	7836	July 11, 1973	Pennsylvania
Daniel M. Levine	7837	July 11, 1973	Massachusetts
Alice D. Majer	7838	July 11, 1973	Illinois
Irwin P. Baumel	7762	July 20, 1973	New York
Phillip F. Barnhill	7839	July 20, 1973	Dist. of Columbia
Thomas W. Cullings	7841	July 20, 1973	Wisconsin
Linda A. Dudley	7842	July 20, 1973	North Carolina
Jacqueline S. Leung	7843	July 20, 1973	Louisiana
Steven L. Silverman	7844	July 20, 1973	Virginia
Henry P. Solomon	7845	July 20, 1973	New York
Thomas R. Shevock	7850	Aug. 8, 1973	Pennsylvania
Sigman H. Gullins	7851	Aug. 9, 1973	Dist. of Columbia
Frank F. Koller	7847	Sept. 9, 1973	Pennsylvania
Manny Ghsburg	7848	Sept. 9, 1973	Dist. of Columbia
Yen Yu Lin	7849	Sept. 9, 1973	Dist. of Columbia
Jacob P. Pollack	7852	Sept. 10, 1973	New York
Norman A. Powers	7853	Sept. 10, 1973	Connecticut
Samuel M. Tucker	7854	Sept. 10, 1973	Dist. of Columbia
Linda S. Flitch	7855	Sept. 13, 1973	New Jersey
Kenneth G. Hermann	7856	Sept. 13, 1973	Connecticut
Charles R. Johnson	7857	Sept. 13, 1973	Michigan
Anthony R. Masso	7858	Sept. 13, 1973	Rhode Island
Robert D. Del Genis	7859	Oct. 3, 1973	New York
Cynthia J. Boyle	7860	Oct. 4, 1973	Texas
Keith W. Minnick	7861	Oct. 5, 1973	Ohio
Howard A. Bovell	7862	Oct. 18, 1973	Dist. of Columbia
Gail M. Dawson	7863	Oct. 18, 1973	Iowa
Wiggins E. Jones	7864	Oct. 18, 1973	Louisiana
John D. Lauer	7865	Oct. 18, 1973	Georgia
Wendell O. Usery	7866	Oct. 18, 1973	Georgia
Howard M. Werthelme	7867	Oct. 18, 1973	Connecticut
Robert DeChristoforo	7868	Oct. 29, 1973	Massachusetts
William R. Grove	7869	Oct. 29, 1973	Pennsylvania
Nigel L. Haynes	7870	Oct. 29, 1973	Dist. of Columbia
Hyman N. Schneider	7871	Oct. 29, 1973	New York
Gary J. Buehler	7840	Nov. 20, 1973	Pennsylvania

Registered By Reciprocity

Name	Certificate Number	Dated	State
Leuls E. Cozier	7872	Nov. 20, 1973	Pennsylvania
Cornelius J. Fisher	7873	Nov. 20, 1973	Pennsylvania
Chung-Jah K. Park	7874	Nov. 20, 1973	Dist. of Columbia
Jeffrey C. Sirott	7875	Nov. 20, 1973	Virginia
George A. Stevenson	7876	Nov. 20, 1973	New Jersey
Sol Z. Chalom	7877	Nov. 21, 1973	Dist. of Columbia
Philip C. Aucoin	7878	Dec. 4, 1973	Louisiana
Robert G. Demmer	7879	Dec. 4, 1973	Pennsylvania
John S. McFall, Jr.	7880	Dec. 4, 1973	Virginia
Bertram A. Nicholas, Jr.	7881	Dec. 4, 1973	Massachusetts
Carl T. Salzano	7882	Dec. 4, 1973	New Jersey
Carol A. Frame	7916	Dec. 19, 1973	Virginia
Tom H. Humphries	7917	Dec. 19, 1973	Mississippi
Robert E. Millard	7918	Dec. 19, 1973	Washington
Eric McK. Yarbough	7919	Dec. 19, 1973	Illinois
Joseph F. Gallelli	7920	Jan. 9, 1974	New York
Nancy D. Grabenstein	7921	Jan. 9, 1974	Mississippi
William H. Peterson, Jr.	7925	Jan. 25, 1974	Georgia
Robert N. Sykes, Jr.	7926	Jan. 25, 1974	North Carolina
Alton E. Willis	7927	Jan. 25, 1974	Dist. of Columbia
Jack M. Silberman	7928	Jan. 28, 1974	Ohio
Thomas J. Galsland	7929	Feb. 14, 1974	Louisiana
Joan S. Lentine	7930	Feb. 14, 1974	Massachusetts
Melenie W. Petropoulos	7931	Feb. 14, 1974	Pennsylvania
James M. Rutton	7932	Feb. 14, 1974	Nebraska
Harvey I. Chernov	7933	Feb. 20, 1974	Rhode Island
Gill D. Gladding	7934	Feb. 26, 1974	Illinois
Linda K. McCormick	7935	Feb. 26, 1974	Oklahoma
Michael R. Scheffler	7936	Feb. 26, 1974	Ohio
Mary Ann Jaske	7937	Feb. 26, 1974	Indiana
Gerald M. Block	7938	Mar. 28, 1974	New York
Donald L. MacKeen	7939	Mar. 28, 1974	Massachusetts
Grover S. Bragg	7940	April 11, 1974	Virginia
Salvatore A. Saleme	7941	April 15, 1974	Massachusetts
Dennis E. Cole	7942	April 19, 1974	Illinois
Elaime C. Liu	7943	April 19, 1974	Pennsylvania
Ben P. Doughtry	7944	April 24, 1974	North Carolina
Charles A. Harsanyi	7945	April 24, 1974	New York
Marvin M. Steopkenke	7946	April 24, 1974	Connecticut
Samuel T. White	7947	April 24, 1974	Pennsylvania
Ann S. Walters	7948	April 24, 1974	North Dakota
Linda K. Carter	7949	May 13, 1974	Tennessee
Warren B. Shapiro	7950	May 13, 1974	Pennsylvania
Arnold Paige	7953	May 15, 1974	New York
Edgar N. Duncan	7954	June 5, 1974	Pennsylvania
Yoon Ja Kim	7955	June 5, 1974	Dist. of Columbia
Frederick J. Barrowclough	7956	June 5, 1974	Rhode Island
Anne T. Lebowitz	7957	June 5, 1974	Dist. of Columbia
Martin A. Bramson	7958	June 11, 1974	Illinois
John R. Kenny, Jr.	7959	June 11, 1974	Nevada
Anne C. Klitchens	7960	June 11, 1974	South Carolina

The following table shows the number of pharmacists granted registration by reciprocity and the number who were certified to register by reciprocity in other states during the past ten years.

Fiscal Year	Reciprocity	Certified for Registration in Other States
1964-1965	63	20
1965-1966	44	25
1966-1967	61	27
1967-1968	64	20
1968-1969	84	27
1969-1970	75	40
1970-1971	92	26
1971-1972	67	35
1972-1973	94	57
1973-1974	88	63
Total	732	340

The table shows Maryland gained 392 pharmacists by reciprocity during the past ten years.

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Precautions: Use cautiously in children possibly requiring intensive supportive treatment. **Useage in pregnancy:** Safe use of Otrivin brand or xylometazoline hydrochloride has not been established with respect to fetal development. It should not be used in women of childbearing potential or during early pregnancy unless clearly indicated. **Adverse Reactions:** Burning, stinging, dryness of the nasal mucosa, sleeplessness, nervousness, insomnia, headache, light-headedness, CNS depression, prothrombotic or excessive bleeding, nasal congestion (ID 6602, 6674). For complete details, including dosage, please see full prescribing information.

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Pharmacy Permits

Location	1972-1973	1973-1974
Counties:		
Allegany	22	24
Anne Arundel	50	50
Baltimore	147	146
Calvert	2	2
Caroline	3	3
Carroll	14	14
Cecil	7	7
Charles	6	7
Dorchester	4	4
Frederick	17	17
Garrett	4	4
Harford	21	25
Howard	11	14
Kent	3	3
Montgomery	92	98
Prince George's	102	104
Queen Anne's	4	4
Saint Mary's	4	5
Somerset	4	4
Talbot	7	7
Washington	17	17
Wicomico	13	12
Worcester	7	9
County Totals	561	580
Baltimore City	200	201
State-wide Totals	761	781

The above figures include permits issued to hospitals in the counties as follows:

Allegany	2	Howard	2
Anne Arundel	2	Montgomery	5
Baltimore	5	Prince George's	3
Carroll	1	St. Mary's	1
Cecil	1	Talbot	1
Frederick	1	Washington	1
Harford	1	Wicomico	1
Total			27

In Baltimore City, 17 hospitals received a permit to operate a pharmacy. Thus, a total of 44 hospitals have a licensed pharmacy. Three nursing homes and one State Penal Institution have received pharmacy permits.

From July 1, 1973 to the present time permits have been issued to 34 new pharmacies. A total of 21 pharmacies have closed and have not, as yet, been re-opened as pharmacies.

The following table shows the number of pharmacies opened, changes in ownership and closed during the year:

	Changes in Ownership Corporation, and/or Address		
	Opened		Closed
Counties	28	20	11
Baltimore City	6	10	10
Total	34	30	21

The following table shows the number of pharmacies opened, changes in ownership, etc. and closed in the past ten years:

Fiscal Year	Opened	Changes	Closed
1964-1965	22	34	20
1965-1966	27	46	44
1966-1967	41	27	25
1967-1968	24	37	35
1968-1969	34	19	51
1969-1970	20	21	19
1970-1971	24	28	40
1971-1972	27	11	21
1972-1973	25	41	29
1973-1974	34	30	21

Certificate of Registration Renewals

The following shows the renewal periods and the total renewals to date:

Renewal Period	Total Renewals
1961-1962	2,368
1963-1964	2,425
1965-1966	2,663
1967-1968	2,762
1969-1970	2,900
1971-1972	3,084
1973-1974	3,342

Manufacturers' Permits

Permits to manufacture drugs, medicines, toilet articles, dentifrices or cosmetics during 1974 were issued to 33 firms. An applicant applying for a permit for a newly established company is required to appear before the Board and to furnish all information the Board considers pertinent to the conducting of such operation.

Dangerous Drug Distributors' Permits

The Board issued 107 permits to sell, distribute, give or in any way dispose of dangerous drugs during 1974. It is not necessary for a subsidiary or subsidiaries of a company to have a separate permit, as they are covered under the permit held by the parent company.

Legislation

Many bills relevant to pharmacy were submitted to the 1974 General Assembly. The only bill which passed the General Assembly was House Bill 1636. This bill would have required a special label on drugs of various categories. The Board had opposed the bill during its

hearing. After the bill had passed, the Board wrote Governor Mandel indicating its opposition to his signing the bill into law, stipulating its reasons for its position. The Governor held a hearing and subsequently vetoed the bill. A majority of the other bills which did not pass embraced posting and advertising of prescription prices, changing the composition of the Board and designating Schedule V substance as prescription only medication.

Cooperative Activities

The Board maintained membership in the National Association of Boards of Pharmacy. The annual meeting of the Association was held in Atlanta, Georgia, May 5-8, 1974. The Board was represented by President Morris R. Yaffe, Mr. Frank Block and Mr. Ralph Quarles.

The Board also maintained membership in the Conference of Boards and Colleges of Pharmacy of the National Association of Boards of Pharmacy, District Number Two, comprising the states of New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, Virginia and West Virginia. The annual meeting was held in Atlantic City, New Jersey on October 25-27, 1973. The Board was represented by President Morris R. Yaffe, Secretary C. H. Tregoe, Mr. Frank Block and Mr. Ralph Quarles.

The Board maintained cooperative activities with the State Department of Health and Mental Hygiene, the School of Pharmacy—University of Maryland, the Maryland Pharmaceutical Association, the Baltimore Metro-

politan Pharmaceutical Association, the Federal Drug Enforcement Administration, the Food and Drug Administration, City, County and State Police.

Finances

All funds of the Board of Pharmacy are deposited to the credit of the Treasurer of the State of Maryland, and disbursements covering the expenses of the Board are paid by voucher by the State Comptroller.

FINANCIAL STATEMENT — MARYLAND BOARD OF PHARMACY 1974 Fiscal Year

Budgeted	\$12,020.00
Budget Credits	76.52
Total Available	12,096.52
Expenditures	12,093.12
Unexpended Balance	3.40
Unliquidated Encumbrances	.00
Unencumbered Balance	\$ 3.40

Respectfully submitted,

C. H. TREGOE, Secretary-Treasurer
Maryland Board of Pharmacy

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MPhA Regional Meeting

Colony 7 Motor Inn

November 14, 1974

The MPhA Regional Meeting and House of Delegates Session was opened by President Paul Freiman who delivered the President's report. Nathan I. Gruz then delivered the Executive Director's report. This was followed by the Treasurer's report given by Morris Lindenbaum.

HOUSE OF DELEGATES

Morning Session

Speaker of the House of Delegates S. Ben Friedman gave welcoming remarks and asked for the roll call of Delegates. Executive Director Gruz read the list of Delegates and it was determined that a quorum was present. Speaker Friedman then called for committee reports. Dr. Ralph Shangraw delivered the Drug Evaluation Committee report. He noted that the committee was accumulating information from the Pharmacy and Therapeutics Committees of area hospitals. This information will then be evaluated and distributed to members.

The Continuing Education programs were reviewed by Henry Seidman. I. Earl Kerpelman presented the report for the Board of Pharmacy. He reported that the National Association of Boards of Pharmacy is considering continuing education accreditation on a national scale as opposed to the present state by state system. The case regarding pharmacies being open without a pharmacist on duty was discussed. Paul Reznick suggested that the Board of Pharmacy distribute its minutes or reports of its activities to all pharmacists. Irvin Kamenetz requested clarification on the question of pharmacist's liability in filling every prescription presented to him. Mr. Kerpelman discussed the consolidation of Boards of Registration under the Department of Health.

Donald Fedder reported on the Consumer-Pharmacist Relations Committee and presented a report as consultant to the Maryland Formulary Committee. The problem of information lacking as to actual manufacturer of drug products was discussed. Present legal requirement is that Secretary of Health only must be notified. The Association is continuing in its efforts to make this information available to all pharmacists. Two consumer members now serve on the Consumer Relations Committee. Topics to be discussed and expanded in the future are: consumers' views of required pharmaceutical services and definition of "comprehensive pharmacy services." The committee recommends that the association and consumers meet to propose a price posting bill.

Speaker Friedman then called upon representatives of local and affiliated associations for remarks. Mr. Friedman spoke for the Prince Georges-Montgomery County Pharmaceutical Association and reported on their recent activities. Stephen Hospodavis reported for the Allegany-

Garrett County Pharmaceutical Association with Robert Martin describing the newest problem regarding third-party co-pay discounts being offered by certain pharmacies in his area. Samuel Morris extended greetings from the Eastern Shore Pharmaceutical Society and Normand Pelissier reported for the Maryland Society of Hospital Pharmacists.

Other committee reports included the Employee Pharmacist Committee report presented by Douglas Kadan and the Tripartite Committee report presented by Dr. Ralph Shangraw noting that the committee is studying auxiliary labeling and other methods of counseling patients including the legal problems involved. Revision of the Maryland Pharmacy Law will be a major task of this committee. Henry Seidman then presented the Pharmacy Practices Committee report. A resolution approving in principle the proposed Pharmacist-in-Charge law was passed with the provision that input from the Employee Pharmacist Committee would be sought.

Award Ceremonies

During the lunch following the morning session, Honorary President Harry Schrader, a Past President of the Calvert Drug Company, was presented the Honorary President's Award by Past MPhA President Anthony G. Padussis. Then President Paul Freiman called upon Gerald Bringenburg of the E. R. Squibb and Sons Co. to present Anthony Padussis with the Immediate Past President's Award, a delft mortar and pestle. Sydney L. Burgee, Jr., the first Speaker of the MPhA House of Delegates (1971-1972), was presented with a Past Speaker's plaque by Paul Freiman.

Afternoon Session

The afternoon session began with a report from the Convention Trip Committee by Chairman Ronald A. Lubman. This was followed by the Ancillary Personnel Committee report given by Paul Freiman in the absence of Chairman Milton Watkowski. The committee is in favor of a 1:1 ration of pharmacist to supportive personnel providing the pharmacist use the time saved for more patient counseling. A resolution was presented by Michael Leonard stating that if a "technician" is employed, then the pharmacist must have contact with the patient on each prescription. This resolution was tabled upon motion of Robert Martin until a definition or guidelines can be presented defining ancillary personnel and the matter was referred to the Ancillary Personnel Committee.

The matter of prescription copies and the legality of transfer among pharmacists was discussed. The Virginia law allows transfer and once a copy is issued, the original becomes void. This matter is now before the Maryland

Board of Pharmacy. The Legislative Committee report was presented by Melvin Rubin. Upon motion of Bernard B. Lachman, seconded by Stanley Yaffe, the report was accepted in its entirety. The matter of "poly-script" prescription forms will be taken up with the State Medical Society.

Resolutions

The Resolutions Committee report was presented by Chairman Joseph U. Dorsch. The following resolutions were passed:

1. Amend Safety Container Law to require safety containers only if directed by prescriber, patient or on pharmacist's judgement. Request input from APhA.
2. Seek legal requirement for requests for information regarding OTC drugs to be handled only by pharmacists.
3. To support APhA policy of opposition to manufacturer prescription sampling programs which do not financially remunerate pharmacist for his professional services.
4. Request APhA to take action to allow community pharmacists to legally fill prescriptions written by a hospital physician who does not have an individual DEA (BNDD) number.
5. To adopt policy in opposition to "poly-script" type of prescription form and to advise State Medical Society of this position.

6. To request APhA use OTC commercials on public service TV and radio spots in local area and seek other methods of telling Pharmacy's story to the public.
7. To obtain information from the Health Department on actual manufacturer of drugs and request APhA to seek national legislation to require name of actual manufacturer on label.

Other resolutions introduced but which were referred to committee included a resolution to allow pharmacists to advertise to the public the services which they offer. Another resolution called for the President to refer the matter of co-pay discounts to a committee for further investigation. A recommendation by Robert Martin called for the names of nominees for Board of Trustees to be selected by geographical area. The Liaison Committee report was presented and approved. Irvin Kamenetz reported for the Peer Review Committee. This committee is now in process of incorporating proposed MSHP Peer Review guidelines into the MPhA Peer Review document. Upon motion of Philip Lindeman, the decision of President Freiman to authorize joint participation by MPhA and MSHP in the Peer Review Committee was ratified. Dr. Peter P. Lamy is Chairman and Irvin Kamenetz is Co-chairman.

There being no further business, the meeting adjourned at 3:30 p.m.

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FOTO DATE: AUG., 1974

*Dear Mother,
Here's Bobby.
Doesn't he
look just
wonderful.
He's four
now.
Love,
Viki*



Post Card

*Mrs. Peggy Smith
210 Park Ave.
Maitland
Orlando 45602*

POST-A-PHOTO
PERSONAL PHOTOGRAPH & LETTER SERVICE

Laws and Regulations for Pharmacists

Latest News from Division of Drug Control, Maryland State

A. J. Ogrinz, Jr., Acting Chief

I. Sale of Needles and Syringes

Several instances of improper handling of the sale of needles and syringes have been reported to this office. For your information, the regulation is herein repeated:

"The sale of needles and syringes or other paraphernalia shall be made by the pharmacist only in good faith to patients showing proper identification and indication of need. Such record of sales shall be recorded in a Registry to be established for this purpose which shall contain the purchaser's name and address, date of sale, item and quantity sold and the signature of the pharmacist."

II. Price stickers, etc.

It has been observed that price stickers and markings, etc., are frequently placed over label expiration dates and other pertinent parts of labels. Please advise your personnel in this regard.

III. Filling "Out Of State" Prescriptions

Prescriptions written by practitioners licensed and practicing in other states may be filled in Maryland pharmacies. Such prescriptions must fulfill the prescription prerequisites and it is the responsibility of the pharmacist to determine the authenticity.

IV. Quantity Restriction on Dispensing of Amphetamines, Methamphetamines and Their Compounds

The quantity restriction on amphetamines, methamphetamines and their compounds is as follows: 34 day supply or 100 dosage units whichever is less. This regulation applies only to the above named Schedule II Drugs. It DOES NOT apply to any other drug listed in Schedule II, such as: Methylphenidate HCl (Ritalin), Phenmetrazine HCl (Preludin), Secobarbital, Pentobarbital, Amobarbital, Narcotics.

V. Emergency Dispensing of Schedule II Controlled Substances

Reviews of Schedule II prescription files by inspectors of the Division of Drug Control indicate that all provisions of the Federal Regulation 1306.1 are not being completely fulfilled:

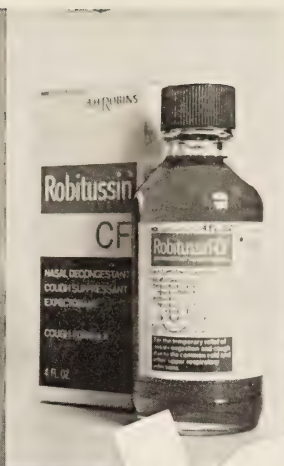
Section 1306.11(d) is reprinted below so that compliance requirements are understood. Please read completely since last sentence informs the pharmacist that the authority

conferred upon him for emergency dispensing will be voided if he fails to fully comply.

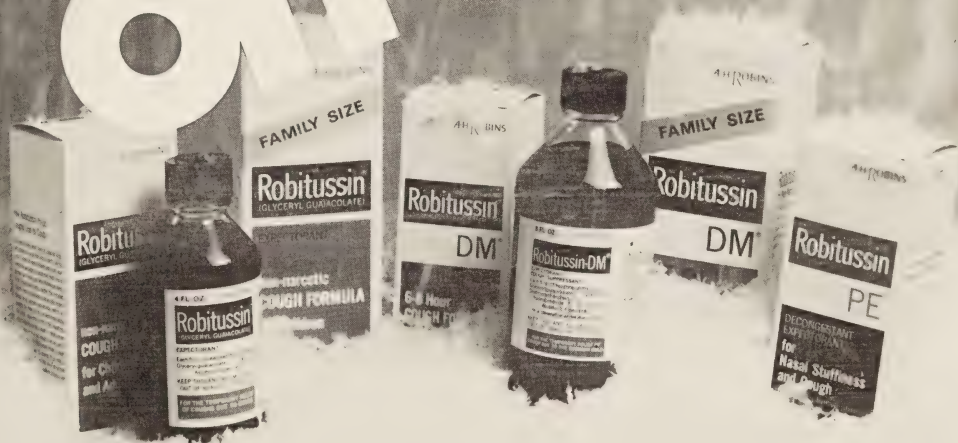
(d) In the case of an emergency situation, as defined by the Secretary in Section 1.110 of this title, a pharmacist may dispense a controlled substance listed in Schedule II upon receiving oral authorization of a prescribing individual practitioner, provided that:

- (1) The quantity prescribed and dispensed is limited to the amount adequate to treat the patient during the emergency period (dispensing beyond the emergency period must be pursuant to a written prescription signed by the prescribing individual practitioner);
- (2) The prescription shall be immediately reduced to writing by the pharmacist and shall contain all information required in Section 1306.05, except for the signature of the prescribing individual practitioner;
- (3) If the prescribing individual practitioner is not known to the pharmacist, he must make a reasonable effort to determine that the oral authorization came from a registered individual practitioner using his phone number as listed in the telephone directory and/or other good faith efforts to insure his identity; and
- (4) Within 72 hours after authorizing an emergency oral prescription the prescribing individual practitioner shall cause a written prescription for the emergency quantity prescribed to be delivered to the dispensing pharmacist. In addition to conforming to the requirements of Section 1306.05, the prescription shall have written on its face "Authorization for Emergency Dispensing" and the date of the oral order. The written prescription may be delivered to the pharmacist in person or by mail, but if delivered by mail it must be postmarked within the 72-hour period. Upon receipt, the dispensing pharmacist shall attach this prescription to the oral emergency prescription which had earlier been reduced to writing. The pharmacist shall notify the nearest office of the Bureau if the prescribing individual practitioner fails to deliver a written prescription to him; *failure of the pharmacist to do so shall void the authority conferred by this paragraph to dispense without a written*

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where your profits are!

A. H. Robins Company, Richmond, Va. 23220 **AH-ROBINS**

VI. Medical Assistance Prescriptions—Schedule II

The first (original) part of the three part medical assistance prescription form is the only portion acceptable for filing on the Schedule II prescription file. No additional prescription is required from the prescriber.

VII. Talwin

Talwin is a Controlled Dangerous Substances—Schedule III in the State of Maryland and subject to all the legal requirements of that Schedule. Effective July 1, 1973.

VIII. Telephone Request for Prescription Copies

For the protection of all concerned a pharmacist when calling another pharmacy for a copy should determine that a pharmacist to pharmacist communication prevails and specify "for information only." It should be noted here that a copy of a prescription does not have legal status as a valid prescription.

IX. Drug Recalls

At the request of the Food and Drug Administration, Whitehall Laboratories have voluntarily recalled two new products: "Aspirin Free Arthritis Pain Formula" and "Saloxium Analgesic Antiinflammatory Tablets." Possible salicylate toxicity is involved.

X. O.T.C. Abuse

We are receiving an increasing number of reports regarding the abuse of O.T.C. preparations. These complaints apply particularly to cough preparations containing Dextromethorphan. Our concern, in addition to its possible abuse potential, is the toxicity of Dextromethorphan hydrobromide. We suggest removal from the self-service shelves so that its sale may be monitored by the pharmacist.

XI. Reminders

- a. Nitroglycerin and nitroglycerin products should be dispensed in original manufacturer's containers only.
- b. Carefully check expiration dates on all medication whether legend or O.T.C.
- c. It is *recommended* that all prescriptions when legally refilled be dated and initialed by the pharmacist on the back of the prescription.
- d. It is *required*, when refilling a controlled dangerous substance prescription in Schedule III or IV that the back of the prescription be dated and initialed by the pharmacist. Should this method of filing not be suitable, it is provided that another appropriate uniformly maintained readily retrievable record, such as medica-

tion records be maintained. This record must indicate the number of the prescription and the following:

1. name and dosage form of the controlled dangerous substance
2. date of each refilling
3. quantity dispensed
4. identity or initials of the dispensing pharmacist in each refilling
5. and the total number of refills for that prescription

Whichever method is used the pharmacist shall be deemed to have dispensed a refill for the full face amount of the prescription, unless he notes differently.

XII. Pharmacists have inquired of this office as to the meaning of the word "AFFIX" as it applies to the prescription label in Article 27, Annotated Code of Maryland, Section 300(c).

The Attorney General has ruled that the word "affix" has its ordinary meaning in this context.

Black's Law Dictionary, Revised 4th Edition defines "affix" as to "fix or fasten in any way, to attach physically. To attach to, inscribe, or impress upon . . . to attach, add to or fasten upon, permanently."

It is thus the opinion of the Attorney General that the application of the ordinary meaning of the word would require that the label be placed upon the container in such fashion that it will not be readily displaced such as if the label were merely inserted inside the container.

XIII. Forged, Stolen, Unauthorized Prescriptions

Eugene Tudino, MD 22 E. Eager Street DEA AT-1520611	Phoned prescription for CDS-unauthorized — Eastern section of Baltimore City
Sol Tanenbaum, MD 1250 E. North Avenue	Stolen blanks—Preludin — North Baltimore
William L. Gonzalez, MD Maryland General Hospital	Stolen MGH blanks bearing physician name—rubber stamp
R. Goldner, MD 11 E. Chase Street DEA 2544636	Stolen blanks
A. Andrew Alecce, MD 7401 Osler Drive 821-5758	Stolen blanks bearing old address of 1111 Park Ave.
Howard Garber, MD 5310 Old Court Road 922-5888	Forged prescriptions—older woman
Marvin Davis, MD 8507 Liberty Road	Forgeries for Syrup Hycodan
Nicholas A. Volpicello, MD Johns Hopkins Hospital DEA AV-5713448	Forgeries on Johns Hopkins Hospital blanks for codeine

John F. Hartman, MD
422 Medical Arts Building
Baltimore

Eli M. Lippman, MD
809 N. Charles Street
PL 2-1532
DEA AL-1531676

Columbia Hospital and
Clinic Foundation
Columbia, Maryland

"Fictitious Doctor":
Allan Bellings
DEA AB-2145826

Dr. Leveque
Maryland General Hospital

Aurora T. HiPolito, MD
1305 Margarette Avenue
Towson, Maryland

Dove, Gist and Stapleford,
MD
363 S. Cleveland Street
Hagerstown, Maryland

L. B. Stevens, MD

Jay L. Helfgott, MD
Ben S. Fine, MD
Joanne W. Economon, MD
All names on one blank

Rolendo Sabundayo, MD
Renan Dureza, MD
1010 St. Paul Street
Baltimore

Suwat Suwanich, MD
1614 Wilkens Avenue
Baltimore

Leon Kastle, MD
Albert Himelfarb, MD
Michael L. Levin, MD
All names on one blank

Jesse Borden, MD
819 Park Avenue
Baltimore

Bienvenido Matos, MD
86 Cranbrook Road
Cockeysville, Maryland

Forgeries in Annapolis area
for Dilaudid tablets

Stolen blanks

Blanks stolen from hospital
—"Columbia Medical A"—
2 part blanks

Phone prescriptions for
Tetracycline, Dilaudid,
Sacro-Brace—Patient: Rita
Doyle

Phone doctor at 528-6947 if
receive prescriptions on
MGH blanks using his
name.

Stolen MAA blanks bearing
physician's number:
02582-3

Forged prescriptions for
Nembutal using signature
of Dr. Gist

Forged prescriptions for
Doriden 0.5 No. 30 using
name of Robert Martin.

Forgeries: Ritalin-names
used: Mrs. Brenda Johnson,
Mrs. Brenda Martin, An
draws Air Force Base area.

Stolen blanks

Forged prescriptions—
Preludin

Forgeries for Syrup Hy-
codan — Teenage girls
"sign" blank with initials

Stolen prescriptions blanks
—Some have been passed
in NE Baltimore

Stolen prescription blanks—
Forgeries for Valium in
Hampden/Cross Keys area

Issued December 26, 1974

Maryland Board of Pharmacy News

Pharmacy Changes

The following are the pharmacy changes for the month of November:

New Pharmacies

Eastern Shore Hospital Center—Pharmacy, H. M. English, MD, Superintendent; RFD 2, Cambridge, Maryland 21613.

Changes of Ownership, Address, Etc.

Adelphi Terrace Pharmacy, Melvin J. Sollod, President, (Change of corporate structure—formerly Melvin Sollod and G. Dechter; 9139 Riggs Road, Adelphi, Maryland 20783.

No Longer Operating As Pharmacies

Lemler's Drug Store, Nathan Lemler, 1801 West Lexington Street, Baltimore, Maryland 21223.

Stansbury Pharmacy, Howard S. Surell, 1709 Poplar Place, Baltimore, Maryland 21222.

Finksbury Pharmacy, Thomas Suter and Arnold Neuberger, Route 140, Finksbury, Maryland 21048.

Drug Fair No. 27, Milton L. Elsberg, President; 5110 Indian Head Highway, Oxon Hill, Maryland 20021.

Parker's Drug Center, Richard D. Parker, Sr., President; 102 North Market Street, Frederick, Maryland 21701.

Maryland Society of Hospital Pharmacists

The November meeting of the Maryland Society of Hospital Pharmacists was held at the U.S. Public Health Service Hospital in Baltimore. Dr. Stuart H. Walker, Chief of the Department of Pediatrics at Mercy Hospital, was the guest speaker. His talk was entitled "Antibiotic Therapy in Pediatrics." Dr. Walker discussed antibiotics of choice for certain infections and dose ranges for the pediatric patients.

President Paul Burkhart announced that the MSHP Board of Directors had appointed Kent Johnson to fill the unexpired term of Secretary. The following were approved for membership in the Society: Max Singer, Raymond Spassil, Michael Powell, R. Frank Smith, Marlene Ferraro, Lee Cutright, Anthony Cuicchi, Pamela Brown, Harold Laufé, Janet Jones, Michael Brown, Bruce Krug, Richard Moszner, Milton Proudfoot, Michael Tiburzi, Monica Urlock and Peggy Yules.

The December meeting of the Society was held at the Good Samaritan Hospital with Dr. Martin Valentine speaking on "Allergy: Theory, Research and Treatment." Dr. Valentine explored the immunoglobulin trigger mechanism theory of histamine release.

University of Maryland School of Pharmacy

Professional Experience Program

In the effort to continually update and improve the Professional Experience Program, the School of Pharmacy has introduced the position of "Co-Preceptor in Institutional Pharmacy." Appointments, based on recommendation by the participating hospital preceptors and approved by the P.E.P. Staff, are made for one year—June 1 to May 31. Reappointment is on a yearly basis pending approval.

The need for a Co-Preceptorship in Institutional Pharmacy stems from the increasing number of areas of specialization in hospitals and the inability of a single preceptor to supervise day to day professional activities. By having co-preceptors committed to the principles of the Professional Experience Program, the hospital preceptor is able to delegate responsibility and assure individual supervision of the extern during the learning process. This premise coupled with the fact that the co-preceptor often possesses a specific expertise in a particular phase of hospital pharmacy, will greatly benefit the externship program. All co-preceptors are directly responsible to the preceptor in each institution who is a member of the School of Pharmacy faculty. The following individuals are Co-preceptors in Institutional Pharmacy for the academic year 1974-75.

David M. Arrington, M.S.	Stuart Morris
Phyllis Brill	Elizabeth A. Newcomb
Douglas W. Campbell	Normand A. Pelissier
David R. Chason	Douglas Pryor
Steven S. Cohen	S. Ramakrishnan, M.S.
Herbert E. Gakenheimer	James B. Rising
Andrew Glorioso	Brenda Saxon
Paul L. Goldstein	Benjamin Scheinin, M.S.
William Grove	Charles Schutz
Gerald John, M.S.	Thomas Sisco, Pharm.D.
Jack Krause	Henry Stromberger
Carolyn Love, M.S.	Ronald Telak
Berry Joe Means, M.S.	Frederick Wagner, M.S.
Philip Miller	Reid A. Zimmer

Dr. William J. Kinnard, Jr., Dean of the University of Maryland School of Pharmacy, has announced the following appointments and promotions:

Dr. Dean E. Leavitt has been promoted to Assistant Dean for Student Affairs. He received his B.S., M.S., and M.B.A. degrees from the University of Maryland and his Ph.D. in Pharmacy Administration, Industrial Management and Economics from Purdue University.

David A. Knapp, Ph.D., Professor of Pharmacy Administration, has been named Chairman of that department. Dr. James Leslie, Associate Professor of Medicinal

Chemistry, has been named Acting Chairman of that department during the absence of the Chairman, Dr. Nicolas Zenker.

Other promotions include: Larry L. Augsbarger, Ph.D., to Associate Professor of Pharmacy; Dr. Gary Odera to Assistant Professor of Pharmacy; Dr. Thomas Wisner to Assistant Professor of Pharmacy; David Roffman to Assistant Professor of Pharmacy and Chairman, Inpatient Clinical Pharmacy Services; William H. Edmondson to Instructor in Pharmacy.

New appointments include: Donald O. Fedder, Pharmacy Instructor; Timothy Fuller, Pharmacy Instructor; Dr. John Hooper, Pharmacy Instructor; Dr. Diane Tobias, Assistant Professor of Pharmacy; Dr. Ruth Backus Hoppe, Pharmacy Instructor, Thomas Tommasello, Pharmacy Associate and Coordinator of Drug Abuse and Alcoholism Education; Patrick Callery, Ph.D., Assistant Professor of Medicinal Chemistry; and M. David Richman, Ph.D., Assistant Professor of Pharmacy.

The following persons were appointed Clinical Instructors in the Professional Experience Program:

Jerry Dechter, Paul Freiman, Mary Lee, Nicholas Lykos, Stephen Hospodavis, John Newcomb, Richard Parker, Jr., Edward Poklis, Jim Sand, Howard R. Schiff, Howard Sherman, Kurt Sacki, Michael Weinstein, Dr. Frank F. Koller, and Richard E. Rumrill.

Student Officers Installed

Installation for Student Officers for the School of Pharmacy was held on October 16, under the direction of Dr. Dean E. Leavitt, Assistant Dean for Student Affairs and David W. Porter, President of the Student Government Alliance.

Officers installed in the Student Government Alliance were: John Gregory, Vice President; Rose Coleman, Secretary; and Howard Gampel, Treasurer. Officers installed for the class of 1975 were: Angela K. Rusk, President; Michael Ranke, Vice President; Helene Framm, Secretary and Peggy Yules, Treasurer.

Those installed from the class of 1976 were: Paul F. Jarosinski, President; Joseph Smith, Vice President; Rose Coleman, Secretary and Dorothy A. Boucher, Treasurer. The 1977 class officers installed were: Anthony Chite and Shellie Dardick, Co-chairpersons.

The Student Chapter, American Pharmaceutical Association-Maryland Pharmaceutical Association officers installed were: Jay Wenig, President; Louis Silverstein, Vice President; Glenda Owens, Secretary. Those installed in the Student Chapter, National Pharmaceutical Association were: Alex Taylor, President; Willie Sturdivant,

Vice President; Mary Scott, Secretary and Michael Patton, Treasurer.

Dr. David R. Brown, Assistant Professor of Pharmacology and Toxicology at the University of Maryland School of Pharmacy, was one of 23 recipients of research starter grants awarded last year by the Pharmaceutical Manufacturers Association Foundation, Inc. This year he was one of 17 grantees who were provided a second year \$5,000. grant. The grant is being used in a study of the effect of stress and alcohol in combination on drug action.

Contract Awarded

The University of Maryland School of Pharmacy has been awarded a \$29,000 contract for the development of improved drug use review systems. The contract, made possible by a grant to the American Pharmaceutical Association from the Office of Economic Opportunity, is supervised by the Bureau of Community Health Services of the Department of Health, Education and Welfare. The 12-month contract awarded by APhA calls for the development of DUR systems which incorporate patient diagnosis into the data base. According to Dr. David A. Knapp, Director of the project, "emphasis will be placed on drug use review activities in organized efforts to deliver care to ambulatory patients."

Hospitals With Pharmacist Increase

The percentage of U.S. hospitals with the services of a pharmacist continues to grow, as shown in the 1973 data from the American Hospital Association Annual Survey. Eighty-seven percent of the hospitals in the survey reported having a pharmacy with a full-time (62.5%) or part-time (24.5%) pharmacist. In the 1972 survey, 85% of the hospitals said they employed a pharmacist. This figure was 52.8% in 1963 and 41.3% in 1948.

CHANGE OF ADDRESS

When you move—

Please inform this office four weeks in advance to avoid undelivered issues.

"The Maryland Pharmacist" is not forwarded by the Post Office when you move.

To insure delivery of "The Maryland Pharmacist" and all mail, kindly notify the office when you plan to move and state the effective date. APhA members—please include APhA number.

Thank you for your cooperation.

Nathan I. Gruz, Editor
Maryland Pharmacist
650 West Lombard Street
Baltimore, Maryland 21201

Gilpin and Mooney Agree to Merge

James E. Allen, Chairman of the Board and President of the Henry B. Gilpin Company and William J. Mooney, President of Mooney-Mueller-Ward Company announce an agreement to merge the two companies.

Gilpin, with headquarters in Washington, D.C., operates drug distribution centers in Baltimore; Dover, Delaware; Memphis; Norfolk, Virginia; Washington, D.C.; a surgical supply house in Springfield, Virginia, and a service merchandising division in Columbia, Maryland.

Founded in 1902, Mooney-Mueller-Ward Company of Indianapolis, Indiana, operates a full service wholesale drug house and surgical supply facility with sales in excess of \$14 million. In addition to becoming an officer of the Gilpin Wholesale Drug Company, Mr. Mooney will be President of the Mooney-Mueller-Ward subsidiary. Sales of the combined companies will be in excess of \$75 million.

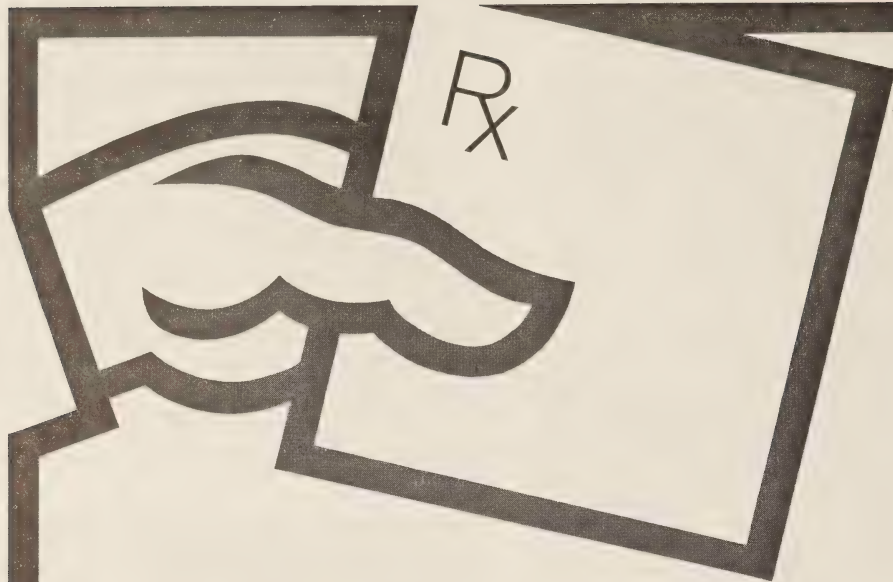


Mr. William J. Mooney, left, and Mr. James E. Allen

Minnesota Becomes 20th State to Vote Affiliation with APhA

The Minnesota State Pharmaceutical Association is the 20th State Association to affiliate with the American Pharmaceutical Association. In a recent mail balloting, MSPhA members voted 671-264 to amend their constitution to require APhA membership.

FEVER BLISTER—No drug will cure a fever blister, reports the National Institutes of Health. However, dentists and physicians can make patients more comfortable by prescribing local anesthetics to relieve pain, ointments to soften crusts, or antibiotics to control secondary bacterial infections which may invade the open sores.



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*Squibb Guaranty of
Professional Liability Protection*

Should any liability action arise, involving a pharmacist who has properly filled an open or branded prescription with a Squibb Pharmaceutical product, E. R. Squibb & Sons, Inc. will provide legal advice and/or defense as necessary, provided the product has been properly handled and stored.



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...the responsibility is ours.

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SQUIBB® The Priceless Ingredient in Every Product
is the honor and integrity of the people who make it.

Traveler's Auxiliary Maryland Pharmaceutical Association



A first! Abrian Bloom of Paramount Photo Service was presented the outgoing President's award by his father, Herman J. Bloom, who also has served as President of TAMPA.



John H. Fagan, left, of Borden-Hendler Company was installed as 1974-1975 President of TAMPA by past President John Cornmesser.

—Photos by Paramount Photo Service

Reznek Receives Meritorious Award

Paul Reznek of Silver Spring, Maryland was presented the Alpha Zeta Omega Pharmaceutical Fraternity's annual Meritorious Award for long and distinguished service to the Fraternity and to the Profession of Pharmacy. Mr. Reznek received the award at the recent 54th Annual National Convention of A.Z.O. in Freeport, Grand Bahama Island.

Mr. Reznek is Executive Secretary of the Prince Georges-Montgomery County Pharmaceutical Association and holds membership in the Maryland Pharmaceutical Association, American Pharmaceutical Association, D.C. Pharmaceutical Association and National Association of Retail Druggists.



Presenting Paul Reznek with the A.Z.O. Meritorious Award is immediate past National AZO President, Burton J. Platt (left).

Sustaining Members Maryland Pharmaceutical Association

BORDEN-HENDLER COMPANY
CALVERT DRUG COMPANY
F. A. DAVIS & SONS
H. B. GILPIN COMPANY
LOEWY DRUG COMPANY
MARYLAND NEWS COMPANY
MILLER DRUG SUNDRY COMPANY

Baltimore Metropolitan Pharmaceutical Association

The Executive Committee of the Baltimore Metropolitan Pharmaceutical Association met on November 11 at the Warren House. Business discussed included commendation to office staff for getting the many committee reports to the Delegates prior to the MPhA Convention; suggestion that reports be sent to all MPhA members and suggestion that MPhA prepare a list of pharmacists who could be asked to contact each legislator during the upcoming legislative session when necessary to clarify Pharmacy's position on a particular issue.

The "Best Neighbor" program with Charles E. Spigelmire, BMPA Treasurer as host, will now be heard on Sunday nights at 12:15 a.m. The Executive Committee agreed in principle to support the Reward Fund of Baltimore and supported the half-price membership proposal of MPhA for new members. Also discussed proposals for MPhA House of Delegates meeting; opposed mandatory patient profiles and suggested changes in the safety closure law.

The BMPA Annual meeting was held on November 21 at the Quality Court Motel in Pikesville. The new officers elected for 1975 include: John Padousis, President; Ronald A. Lubman, President Elect; Stanley Yaffe, Ralph Quarles and Milton Sappe, Vice Presidents; Nathan I. Gruz, Executive Secretary and Melvin N. Rubin, Chairman of the Executive Committee. In addition, the following were elected to the Executive Committee: Barry Levin, Bernard White, Dennis Klein, Douglas Kadan, Marvin Friedman, Martin Mintz, Richard Myers and Samuel Lichter.

Annual reports of officers and committee chairmen were received and a sum of \$1,000. was voted for participation in the Reward Fund of Baltimore City. Publicity regarding the Fund will begin in January. The steps involved in obtaining the increase in the Medical Assistance fee were explained and the needs of the Pharmacists' Political Action Committee (PHARMPAC) were discussed.

A.Z.O. News

The Alpha Zeta Omega Pharmaceutical Fraternity met on December 8 at the Suburban House Restaurant in Pikesville for a Brunch and General Business meeting. Directorum Alan Stoff commented on the successful annual crab feast held at Gordon's which was highlighted by the presence of numerous distinguished guests including: Supreme Directorum Myron Krop, Auxiliary President Marion Krop, Past Supreme Directorums Coleman Levin and Maurice Abrams, Pi Directorum Arthur Yellin, and Paul Reznick, AZO Legislative Representative.

New officers recently installed for the AZO Auxiliary are: President, Mrs. Dorothy Levi; Secretary, Mrs. Eileen Leikach; and Treasurer, Mrs. Rozzie Hecht. Proceeds for this year's AZO Auxiliary raffle will go to the Maryland School For The Blind.

LAMPA News

Ladies Auxiliary of the Maryland Pharmaceutical Association

LAMPA's latest bus trip to Washington, on October 17, 1974 had everything in its favor: sunny, warm autumn weather; and interesting itinerary; bus prizes and surprises; and it was free—to dues paid members.

Our first stop was the National Geographic Society's Explorers Hall. Here we meandered among exhibits displaying photographs, maps, books and relics from some of the over 200 expeditions the Society has sponsored in the past 85 years. Our attention was pleasantly drawn to the pride of Explorers Hall—its world globe. It appears to float in a pool of water and is reportedly the largest unmounted globe in the world. A guide, controlling the globe from a console, explained many salient geographic features of our planet. We felt like moon-bound astronauts, looking back on the earth. In the few minutes we spent watching, as the world turned, we learned a lot of geography.

Our lunch stop was in interesting Georgetown. After lunch, we scattered to visit as many shops in the immediate area as could be explored during our "lunch hour." Many returned to the bus, showing off unusual purchases, or enjoying an ice cream cone.

Dumbarton Oaks, birthplace of the United Nations, was our next stop. Formerly the home of Mr. and Mrs.

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Robert Woods Bliss, it is now a center for research and publication and is part of Harvard University. The extraordinary gardens that surround the Georgian Mansion, were in their full autumn glory. Each garden was different, each a delight. From each a pathway or gate lead to something prettier, a few feet away. The gardens cover 12 acres and as we approached the garden gate, where our bus was waiting, many asked what Mr. Bliss did, to be in a position to create such a refuge of beauty. Answer: He was in the Foreign Service for 33 years and spent 5 years as Ambassador to Argentina.

The new Washington Temple of the Church of Jesus Christ of Latter Day Saints was our last stop for the day. We found it to be all that has been written about it in the local press. Sixteen stories high, with 6 steeples and sheathed in white Alabama marble, it appears to be an apparition when first seen. We were impressed with the simplicity and elegance of the interior furnishings and felt especially fortunate to have had the opportunity to visit Maryland's newest, most eye-catching religious building.

As our bus headed home, president Arlene Padussis announced that LAMPA will again give away one ticket to 2 dues paid members, to the Pharmacy Alumni Oyster Roast to be held on February 2, 1975 at Overlea Hall. The lucky winners will be notified by phone or mail. Last year's winners were Mrs. Frank Swiss and Mrs. William Morgenstern.

We would like to note that this bus trip was planned to take place on the day of the Fall Regional Meeting. However, when the original date was changed, it was decided that due to all the arrangements that had been made, to continue with the bus trip and not have a LAMPA Meeting on the re-scheduled Fall Regional date, November 14, 1974.

Plans are being made for a LAMPA Meeting early in 1975, in the Baltimore area.

—Ann Crane

Prince Georges-Montgomery County Pharmaceutical Association

The PG-MCPhA general meeting of December 15 centered on a discussion of "Pharmacy Problems." Thomas G. Ward, M.D., a practicing physician and Chairman of the Advisory Council to the Montgomery County Drug Abuse Committee, addressed the group.

Upper Bay Pharmaceutical Association

The Upper Bay Pharmaceutical Association met on November 20 at the Bush River Yacht Club. Nominations for officers were presented. The new officers will be installed at a dinner meeting planned for January 26 at Weaver's Steak House in Elkton. Plans for the coming year were discussed at the Executive Committee meeting held on December 11.

Nathan I. Gruz, Executive Director
Maryland Pharmaceutical Association
650 West Lombard Street
Baltimore, Maryland 21201

Dear Mr. Gruz:

We want to take this opportunity to thank the Maryland Pharmaceutical Association for participating in the Drug Product Defect Reporting System during the 1973-1974 contract year. For your information, we received over 5600 reports from pharmacists throughout the United States.

Your continuing support for the program is sincerely appreciated and we look forward to another year of pharmaceutical product improvements.

Sincerely yours,

/s/ Joseph G. Valentino, J.D.
Executive Associate
U.S.P.

Obituaries . . .

F. Perry Ragains

F. Perry Ragains, Sr., 61, who became registered in Maryland in 1939 by reciprocity from Delaware, died on November 17. He was a past president of the Delaware Board of Pharmacy.

Leon H. Burka

Leon H. Burka, 45, died on November 18. He became registered in Maryland in 1953 after graduation from the George Washington University School of Pharmacy.

Stanley Paul Goleb

Stanley Paul Goleb, 39, a 1957 graduate of the University of Maryland School of Pharmacy, died on November 23. He was a pharmacist at the Drug Centre, Sykesville.

Robert P. Keech

Robert P. Keech, 50, who operated Keech's Pharmacy in Cumberland for 24 years, died on November 29.



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Staphylococcus aureus: Acute infections of skin and soft tissue of mild to moderate severity. Resistance may develop during treatment.

Diplococcus pneumoniae: Upper respiratory-tract infections (e.g. otitis media, pharyngitis) and lower respiratory-tract infections (e.g., pneumonia) of mild to moderate degree.

Mycoplasma pneumoniae (Eaton agent, PPLO): In the treatment of primary atypical pneumonia, when due to this organism.

See package insert for other indications.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when

indicated.

Adverse Reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy there is a possibility of overgrowth of nonsusceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Treatment of overdose: The drug is virtually nontoxic, though some individuals may exhibit gastric intolerance to even therapeutic amounts. Allergic reactions associated with acute overdosage should be handled in the usual manner—that is, by the administration of adrenalin, corticosteroids and antihistamines as indicated and the prompt elimination of unabsorbed drug, in addition to all needed supportive measures.

How supplied: 250 mg—in bottles of 100 and in unit-dose packages of 100 enteric-coated tablets. Caution: Federal law prohibits dispensing without prescription.

For additional product information, consult the package insert or see your Upjohn Representative.

Upjohn

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SOME OF OUR FOLKS ARE ALWAYS LOOKING FOR TROUBLE.

And most of the time they find it on the other end of a phone call. Calls from concerned pharmacists just like yourself.

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